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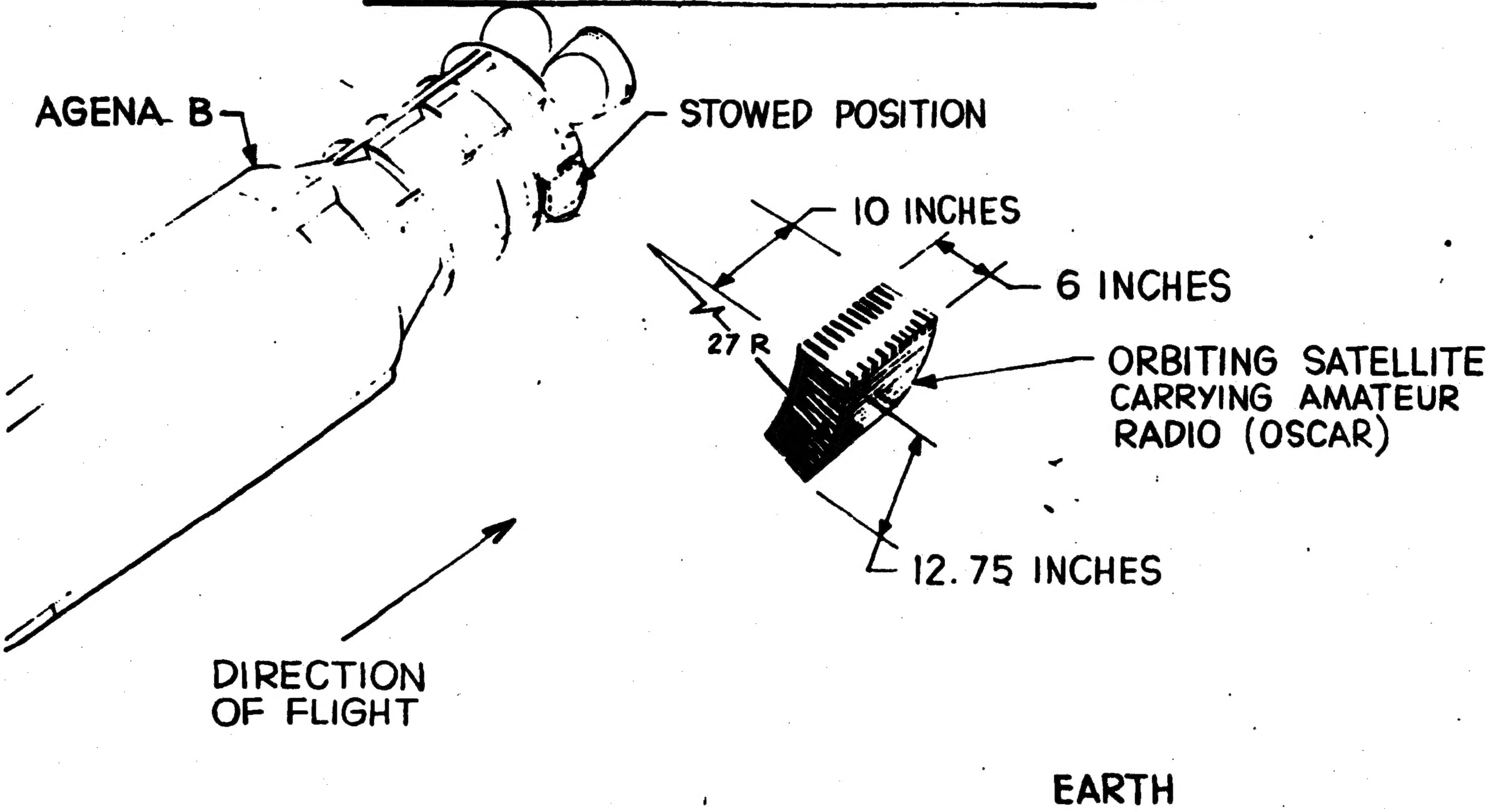
UNCLASSIFIED

DISCOVERER RESEARCH PROGRAM

EJECTION OF COMMUNICATION PACKAGE



P-6469 'DISC' 2-11-32
-721

UNCLASSIFIED

DISCOVERER RESEARCH PROGRAM

PROPOSED GEOPHYSICAL EXPERIMENTS

FTV NUMBER	1124	1125	1126	1132	1127	1128	1134	1129	1130	1131	1133	1135	1136
DOOR NUMBER	112	113	114	115	116	117	118	119	120	121	122	123	124
1 EROISON DETECTOR	•	•											
2 IMPEDANCE PROBE 1A	•	•							•	•			
TEMP. COMMUTATOR	•		•	•			•	•	•	•	•	VELA HOTEL	
3 COSMIC RAY MON. 7B	•	•											
1 DENSITY GAGE MOD 3A	•	•									•		
3 RADIOMETER, MODEL 4	•	•											
3 RADIOMETER, MODEL 5	•	•											
1 CHARGED PARTICLE ENERGY	•	•											
4 COSMIC RAY MONITOR 8B									•	•	•		
2 GALACTIC RF MON, 3													
1 ELECTRON DENSITY GAGE 2C													
3 ULTRA VIOLET RADIOMETER													
2 GALACTIC RF MON 2			•				•				•		
RETARD POTENT. ANALYZER													
1 ION TRAP													
BETA-GAMMA DETECTOR													
TISSUE EQUIVALENT CHAMBER												•	
2 IMPEDANCE PROBE 2													
1 MAGNETOMETER													
2 20/40 TRANSMITTER							•						
NEUTRON DETECTOR 3													
MASS SPECTROMETER													
RADIOMETER, MODEL 6							•	•					
MICROMETEORITE DETECTOR, GRID-ACOUSTIC													

1. EXPERIMENT MOUNTED ON ERECTABLE BOOM . TWO TAPE ANTENNAE REQUIRED . SENSORS FACING EARTH . SENSOR FACING ZENITH

P-6462 DISC 2/10/62

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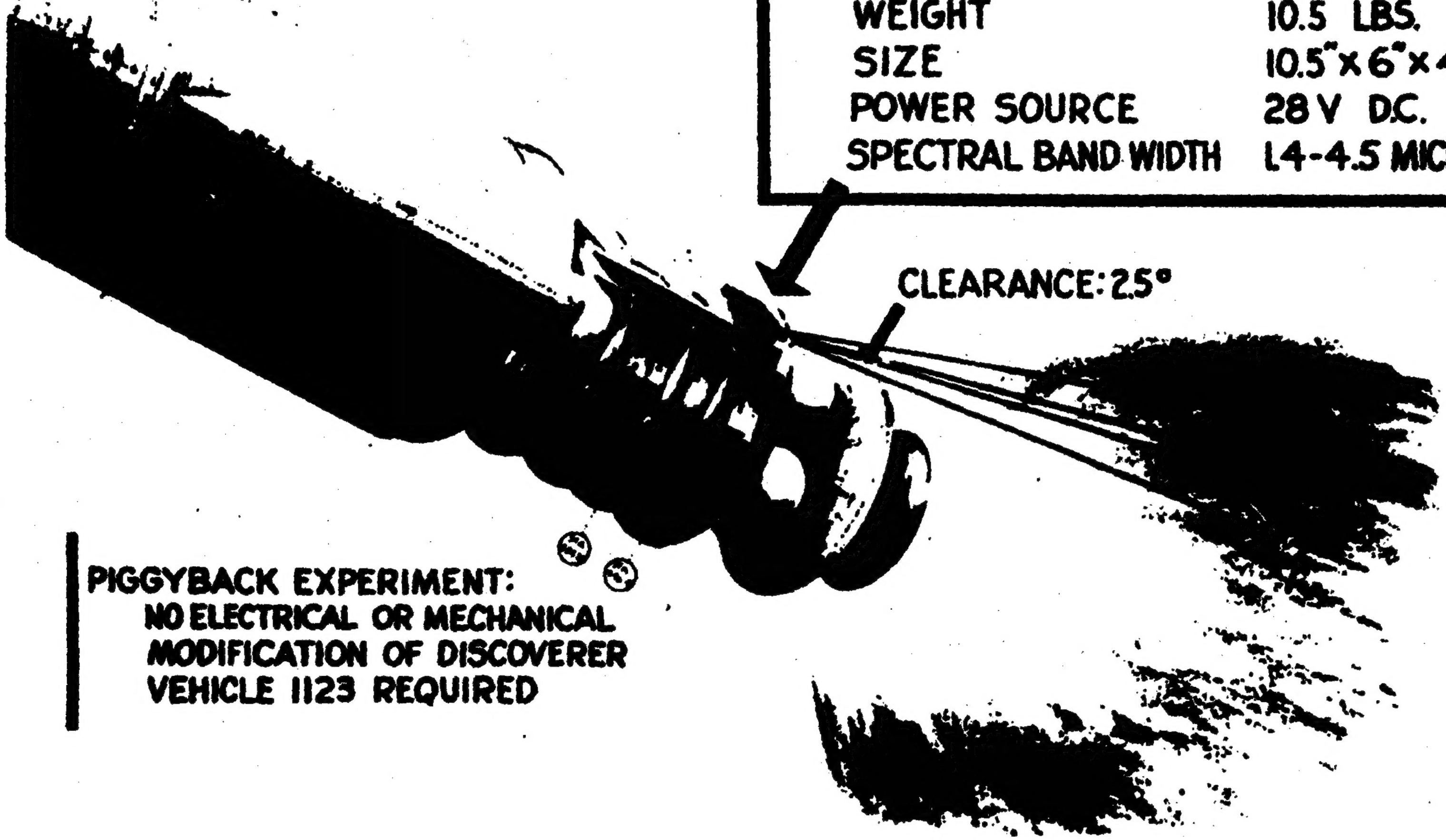
DISCOVERER RESEARCH PROGRAM

MIDAS PLUME

SPECTROMETER CHARACTERISTICS:

WEIGHT	10.5 LBS.
SIZE	10.5"x 6"x 4.6"
POWER SOURCE	28 V D.C.
SPECTRAL BAND WIDTH	1.4-4.5 MICRONS



PIGGYBACK EXPERIMENT:
NO ELECTRICAL OR MECHANICAL MODIFICATION OF DISCOVERER VEHICLE 1123 REQUIRED

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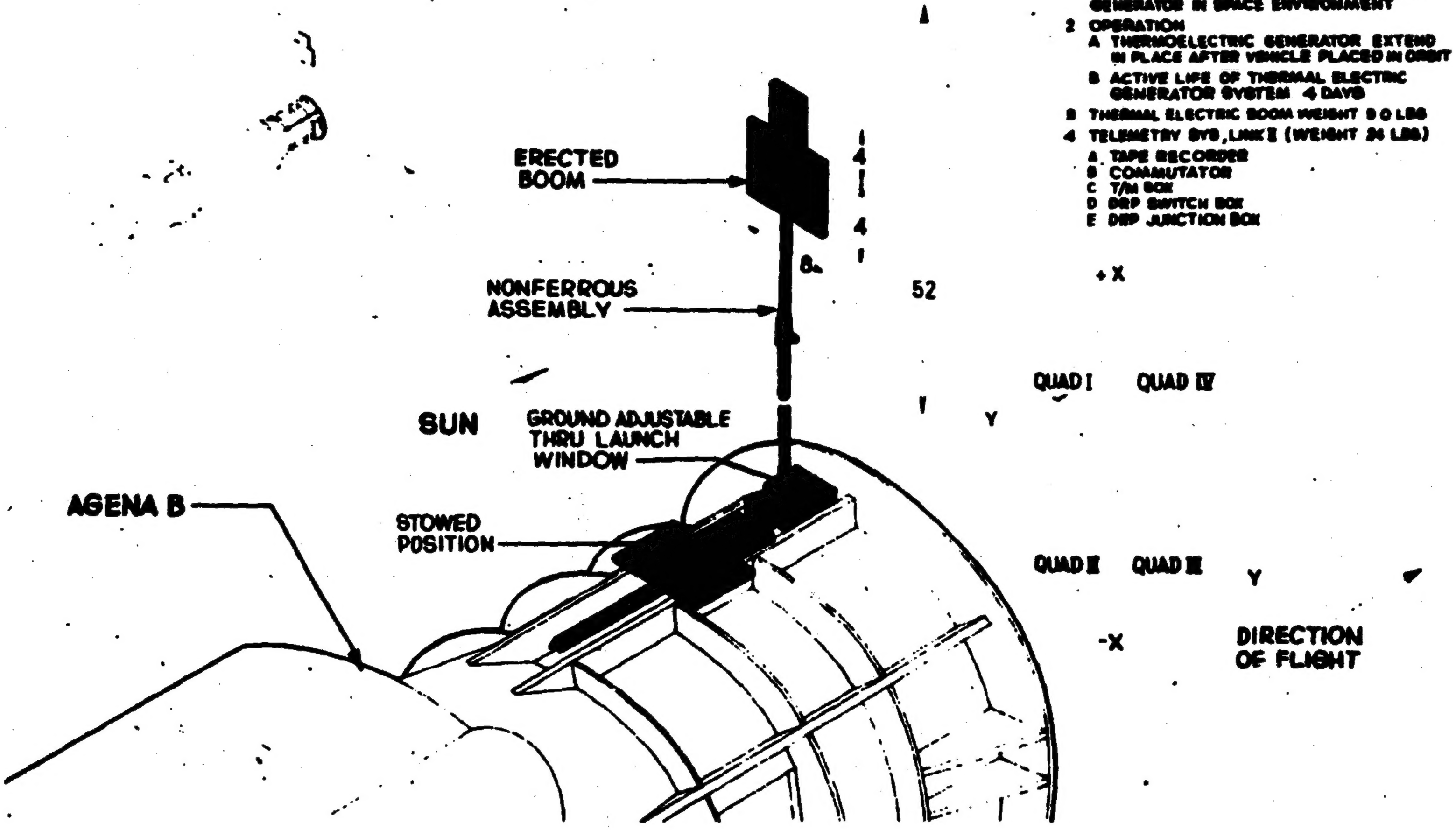
DISCOVERER RESEARCH PROGRAM

THERMOELECTRIC BOOM



NOTES

1 TEST OBJECTIVE DETERMINE THE OPERATING CHARACTERISTICS OF A THERMOELECTRIC GENERATOR IN SPACE ENVIRONMENT
2 OPERATION
  A THERMOELECTRIC GENERATOR EXTEND IN PLACE AFTER VEHICLE PLACED IN ORBIT
  B ACTIVE LIFE OF THERMAL ELECTRIC GENERATOR SYSTEM 4 DAYS
3 THERMAL ELECTRIC BOOM WEIGHT 9.0 LBS
4 TELEMETRY SYS, LINK II (WEIGHT 24 LBS)
  A TAPE RECORDER
  B COMMUTATOR
  C T/M BOX
  D DRP SWITCH BOX
  E DRP JUNCTION BOX

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DISCOVERER RESEARCH PROGRAM

HORIZON SENSOR EXPERIMENT

OBJECTIVES:

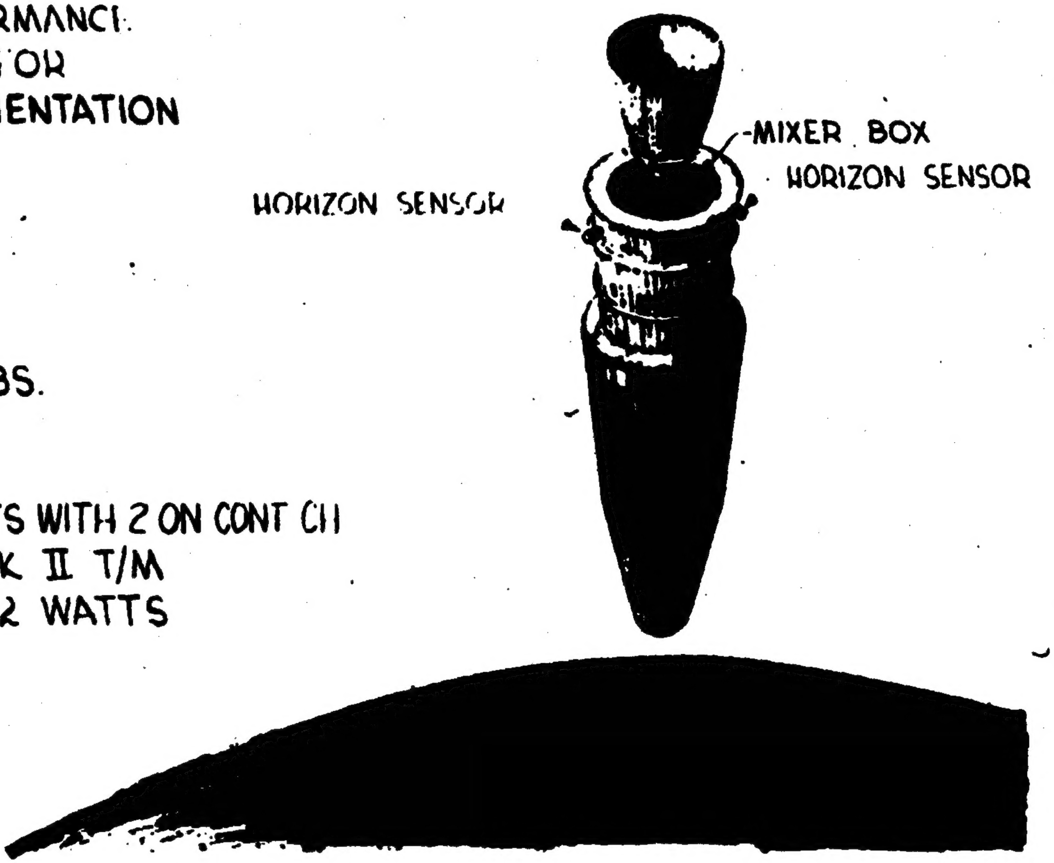
TO EVALUATE THE PERFORMANCE
OF A HORIZON SENSOR FOR
CONTROL OF VEHICLE ORIENTATION

EQUIPMENT:

2 HORIZON SCANNERS
1 MIXER BOX
1 PRE-AMP. BOX
TOTAL EQUIP. WT. 13.5 LBS.

TELEMETRY:

7 INSTRUMENTATION POINTS WITH 2 ON CONT CH
REAL TIME DATA VIA LINK II T/M
POWER REQUIREMENTS, 12 WATTS

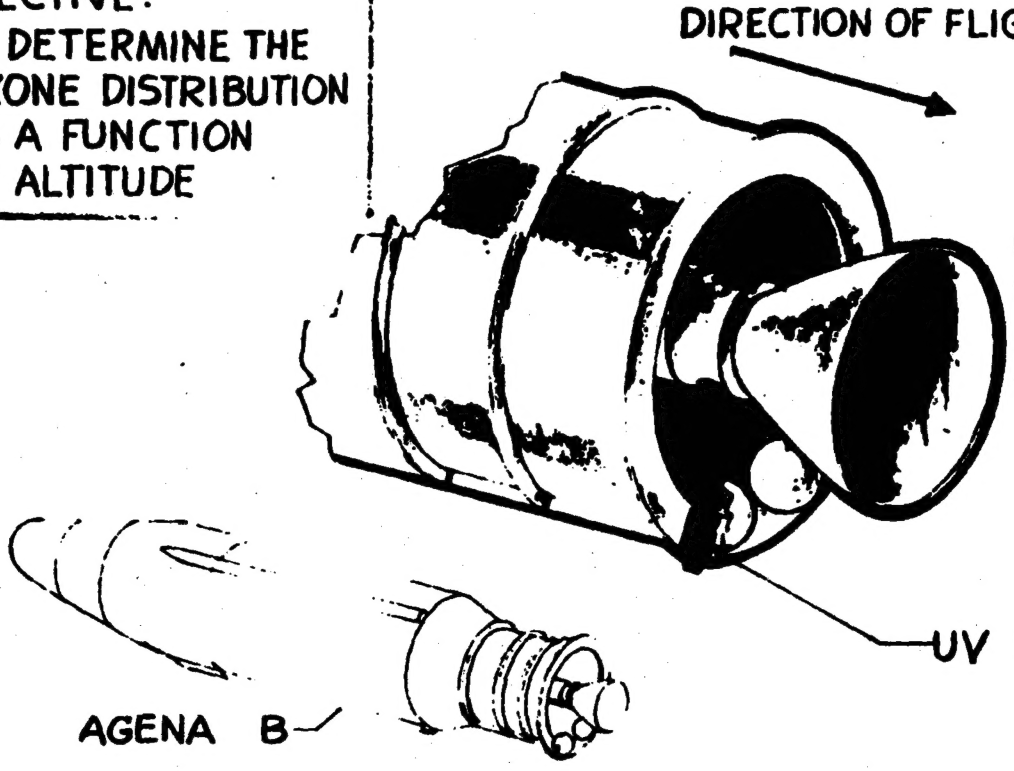


1-6460 DISC 2-10-62
cy-5-1

DISCOVERER RESEARCH PROGRAM

ULTRA VIOLET RADIOMETER EXPERIMENT

OBJECTIVE:
TO DETERMINE THE OZONE DISTRIBUTION AS A FUNCTION OF ALTITUDE



COMMUNICATIONS:

- 4 INSTRUMENTATION POINTS
- REAL TIME DATA VIA LINK II T/M
- RECORDED DATA ON DUAL TRACK 180 MIN. TAPE RECORDER (27:1 RATIO).

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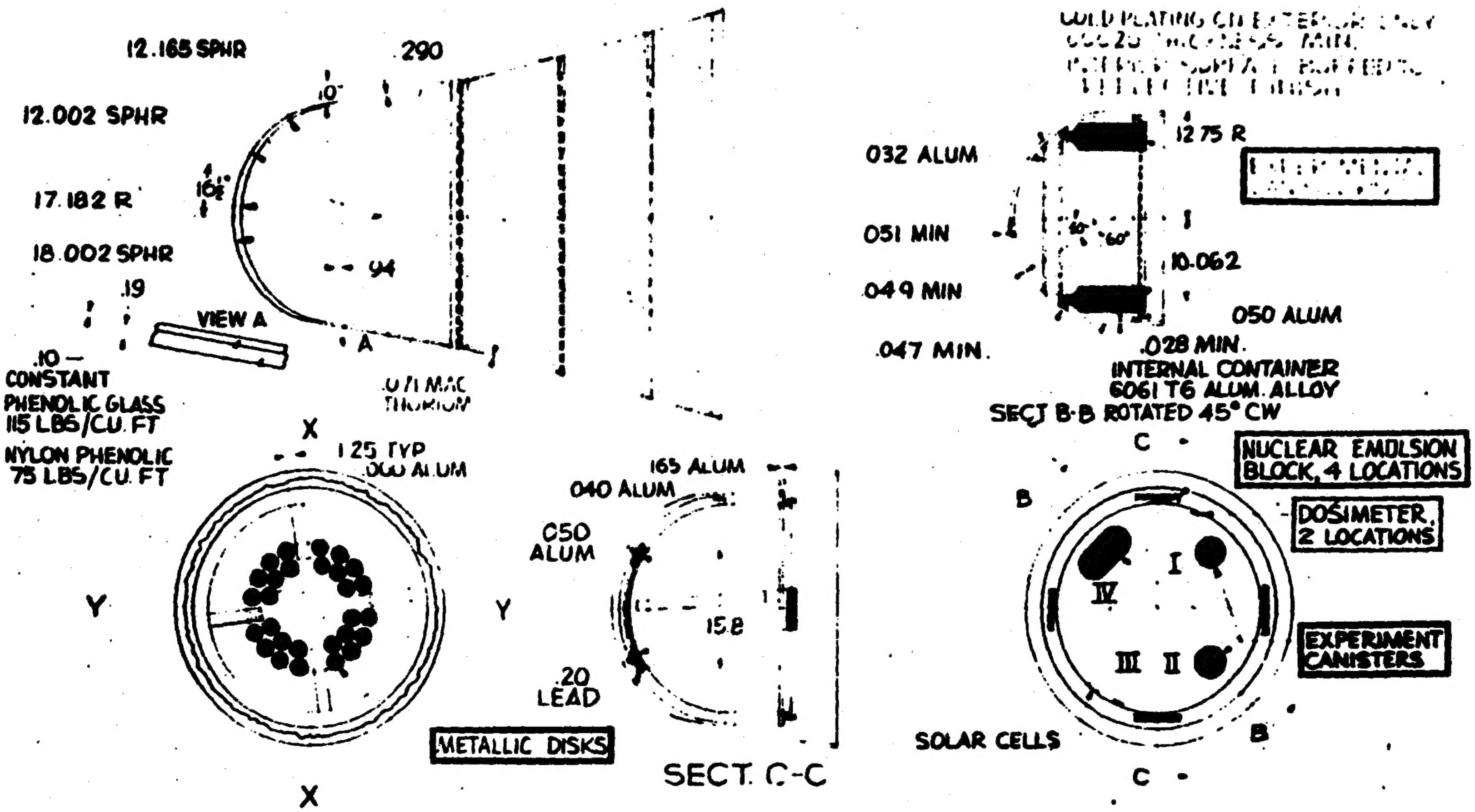
DISCOVERER RECOVERY CAPSULE



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P-6033 "DISC" 12/6/61

CY-5-1

DISCOVERER RESEARCH PROGRAM

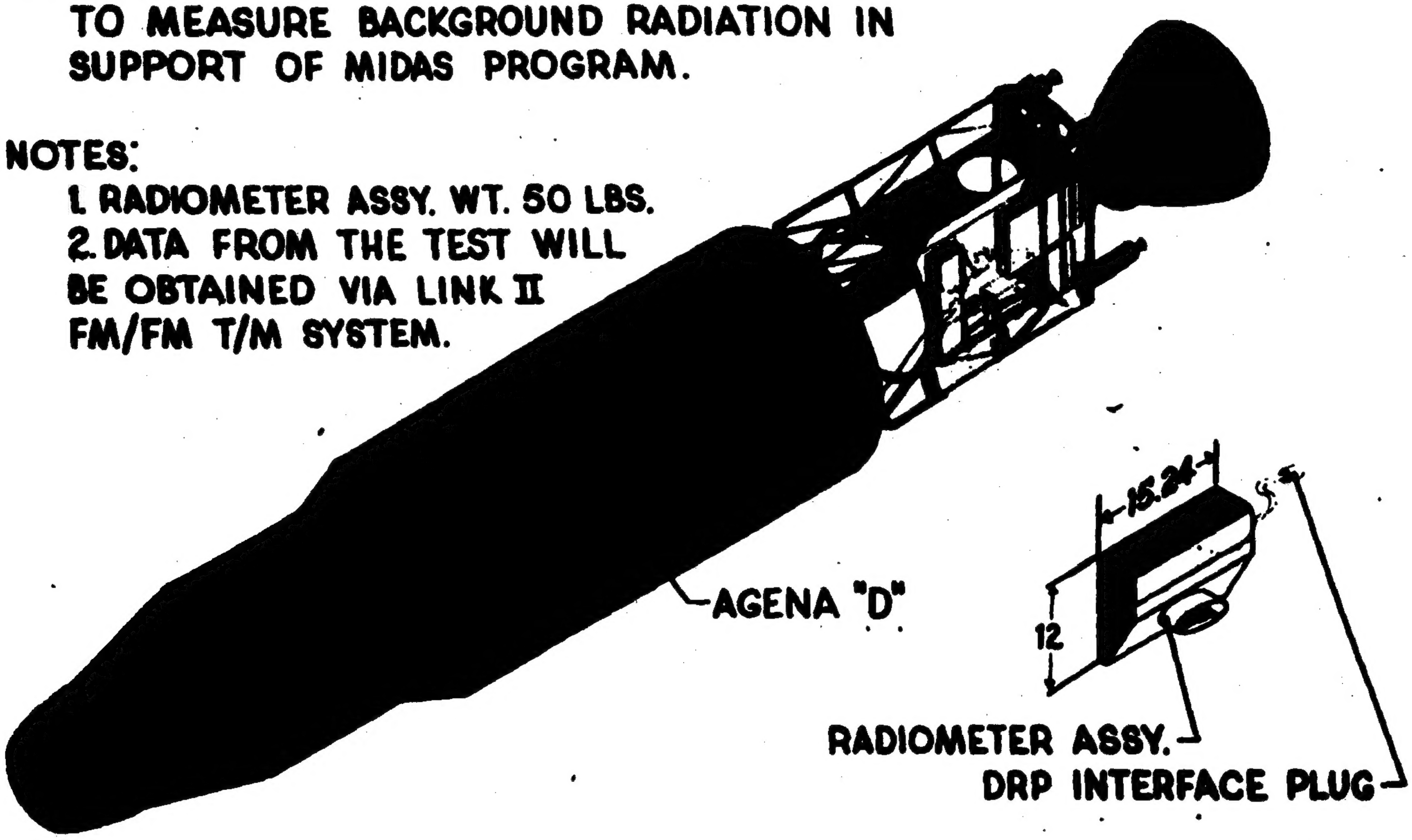
RADIOMETER TEST

OBJECTIVE:

TO MEASURE BACKGROUND RADIATION IN SUPPORT OF MIDAS PROGRAM.

NOTES:

1. RADIOMETER ASSY. WT. 50 LBS.
2. DATA FROM THE TEST WILL BE OBTAINED VIA LINK II FM/FM T/M SYSTEM.

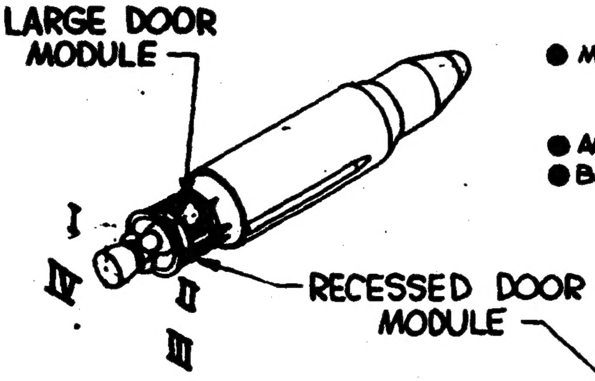


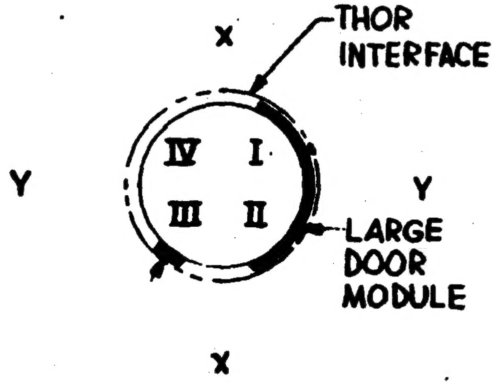
COVERER RESEARCH PROGRAM

RECESSED & LARGE DOOR MODULES

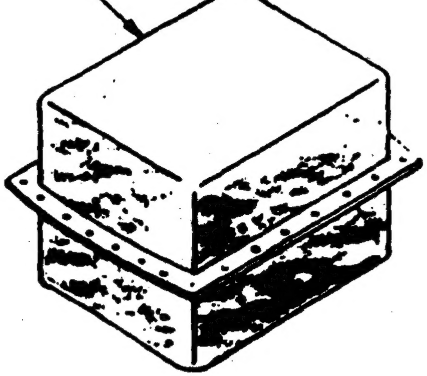
NOTES:

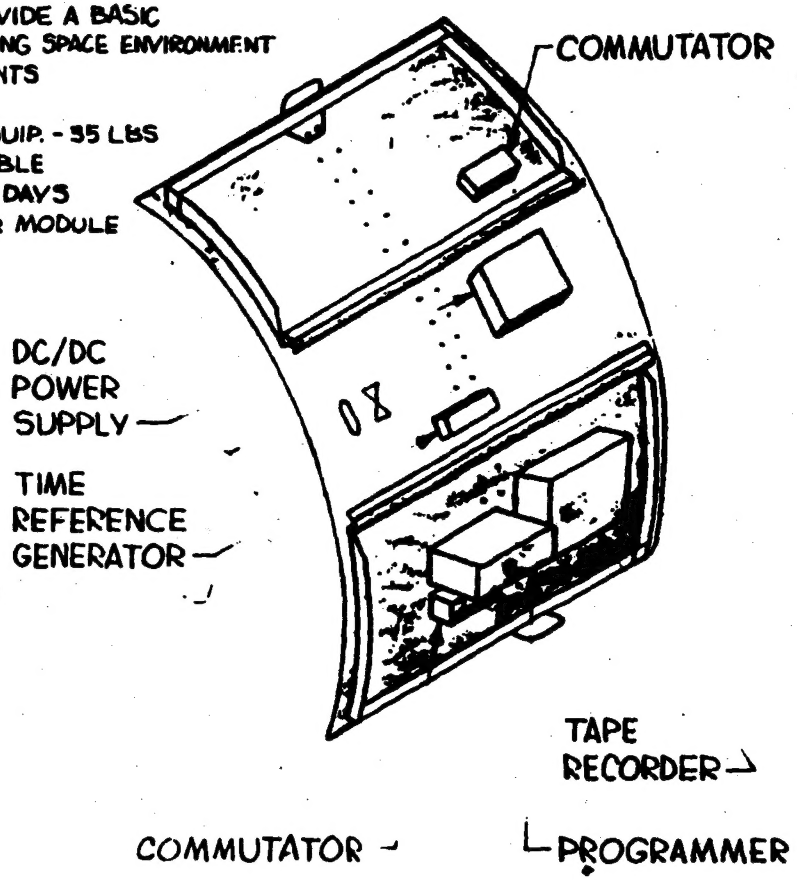
- TEST OBJECTIVES: TO PROVIDE A BASIC CAPABILITY FOR CONDUCTING SPACE ENVIRONMENT AND MATERIAL EXPERIMENTS
- MODULE WEIGHT
  - LARGE DOOR WITH BASIC EQUIP. - 35 LBS
  - RECESSED DOOR, VARIABLE
- ACTIVE LIFE OF MODULES - 4 DAYS
- BASIC EQUIP. ON LARGE DOOR MODULE
  - TAPE RECORDER
  - PROGRAMMER
  - TWO COMMUTATORS
  - TIME REFERENCE GENERATOR
  - DC/DC POWER SUPPLY





RECESSED DOOR MODULE

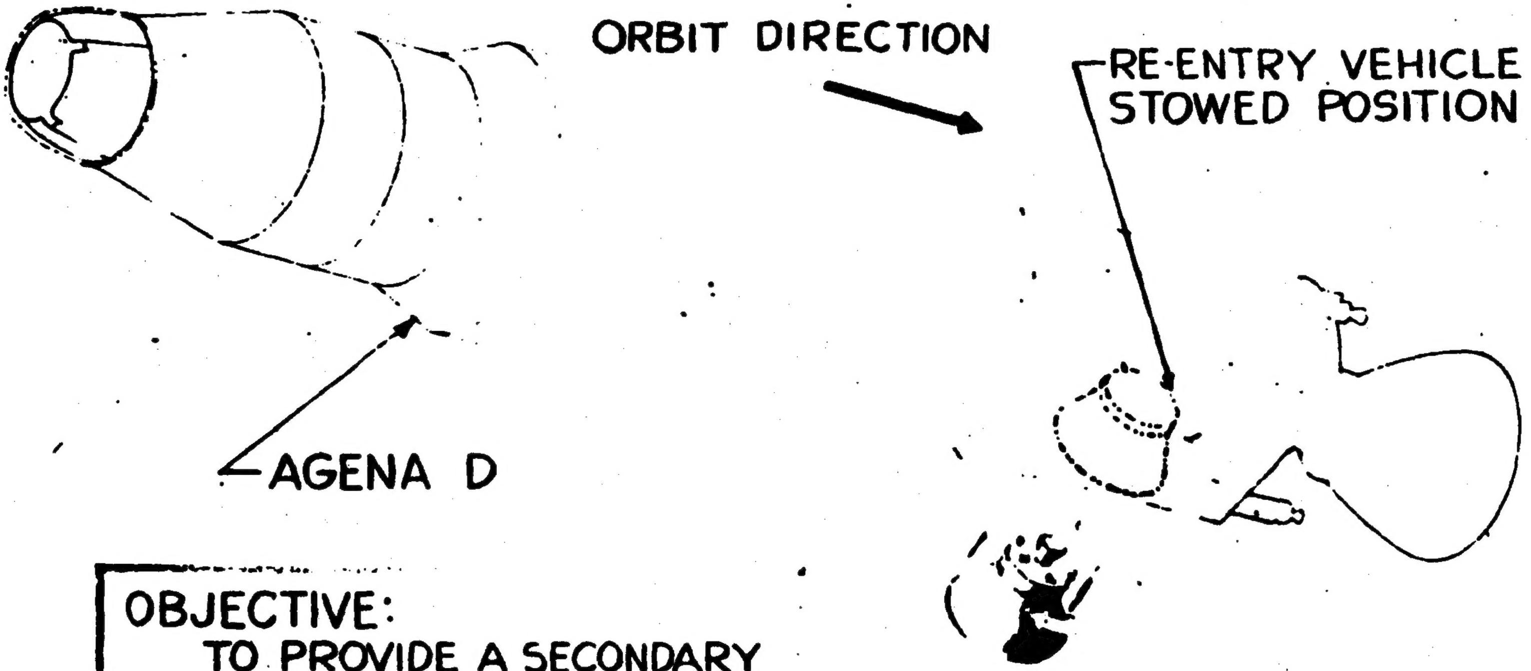




LARGE DOOR MODULE

DISCOVERER RESEARCH PROGRAM

RE-ENTRY RESEARCH VEHICLE



OBJECTIVE:
TO PROVIDE A SECONDARY
RE-ENTRY VEHICLE FOR
RESEARCH EXPERIMENTS

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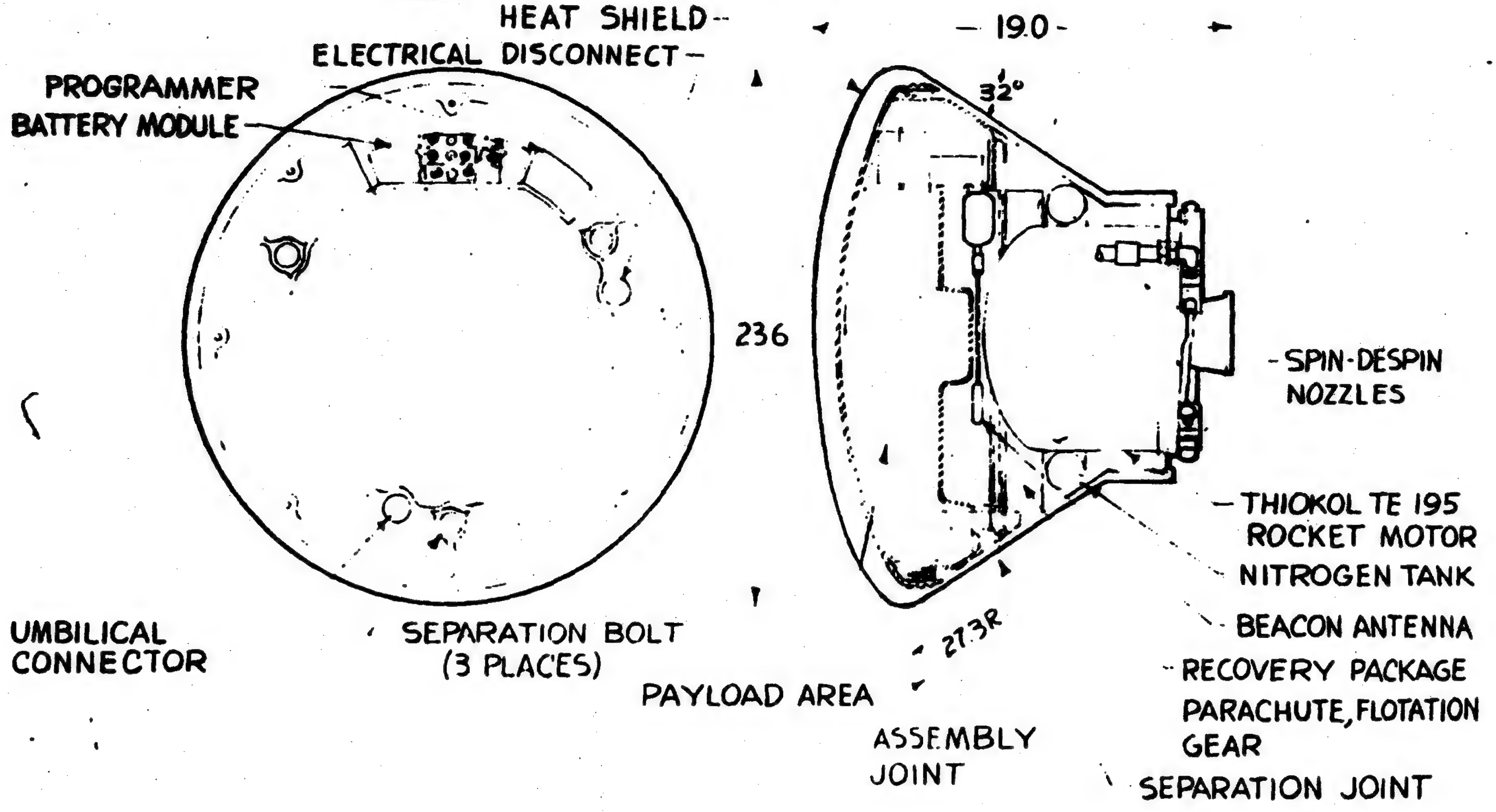
DISCOVERER RESEARCH PROGRAM

RE-SEARCH RE-ENTRY VEHICLE



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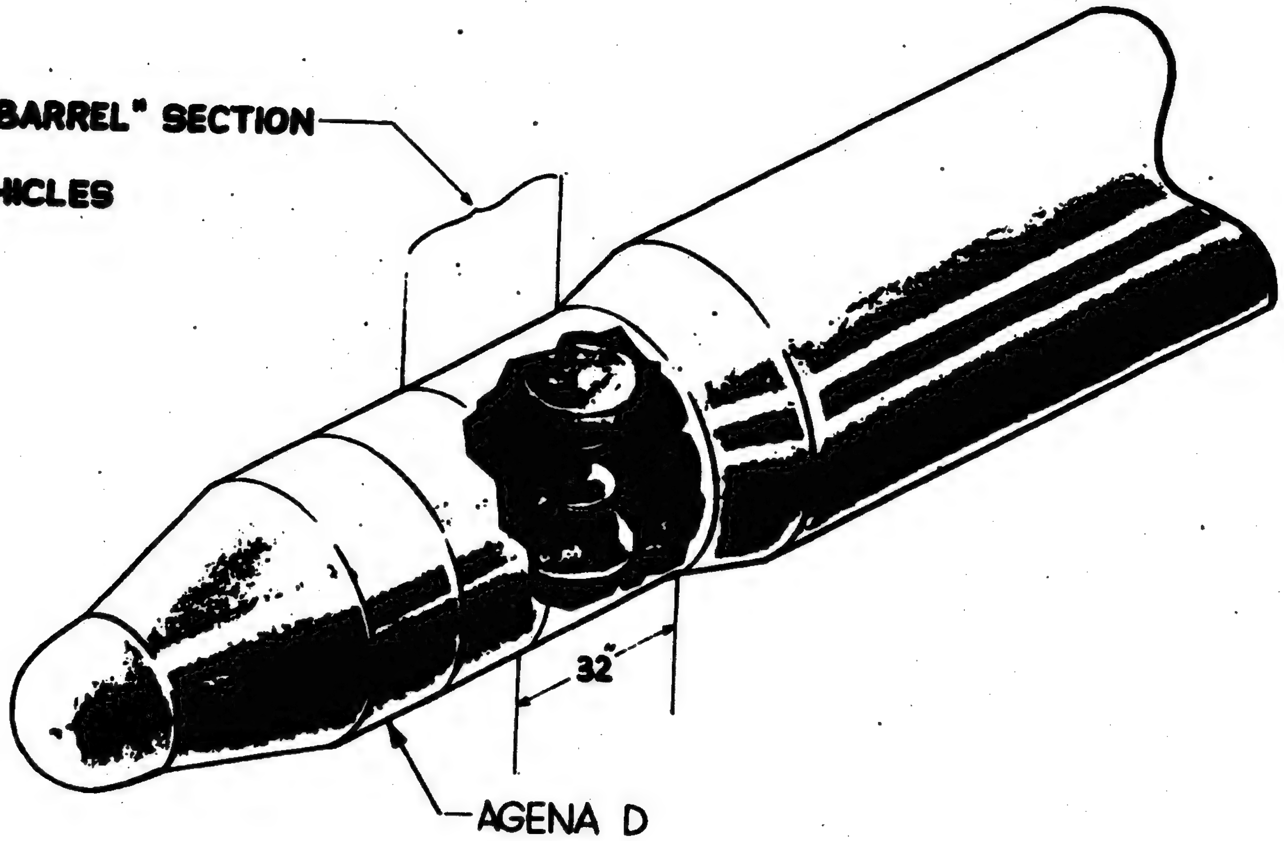
ALTERNATE STOWAGE CONCEPT OF RE-ENTRY RESEARCH VEHICLES



P-0467 'DSC' 2-11-62
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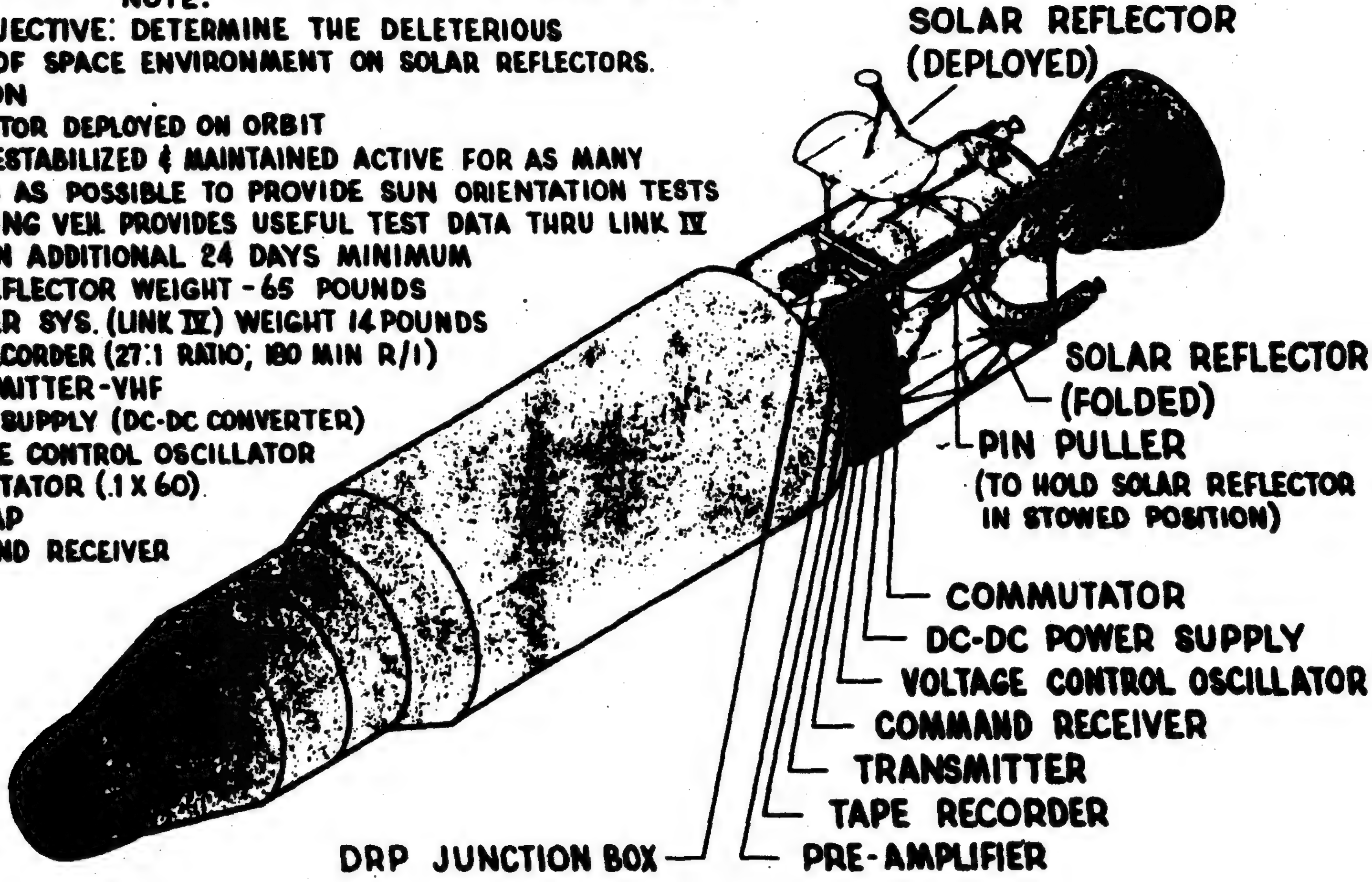
UNCLASSIFIED

SOLAR REFLECTOR SYSTEM INSTALLATION

DISCOVERER

NOTE:

1. TEST OBJECTIVE: DETERMINE THE DELETERIOUS EFFECTS OF SPACE ENVIRONMENT ON SOLAR REFLECTORS.
2. OPERATION
   - A. REFLECTOR DEPLOYED ON ORBIT
   - B. VEH. RESTABILIZED & MAINTAINED ACTIVE FOR AS MANY ORBITS AS POSSIBLE TO PROVIDE SUN ORIENTATION TESTS
   - C. TUMBLING VEH. PROVIDES USEFUL TEST DATA THRU LINK IV FOR AN ADDITIONAL 24 DAYS MINIMUM
3. SOLAR REFLECTOR WEIGHT - 65 POUNDS
4. TELEMETER SYS. (LINK IV) WEIGHT 14 POUNDS
   - A. TAPE RECORDER (27:1 RATIO; 180 MIN R/I)
   - B. TRANSMITTER - VHF
   - C. POWER SUPPLY (DC-DC CONVERTER)
   - D. VOLTAGE CONTROL OSCILLATOR
   - E. COMMUTATOR (.1 X 60)
   - F. PRE-AMP
   - G. COMMAND RECEIVER



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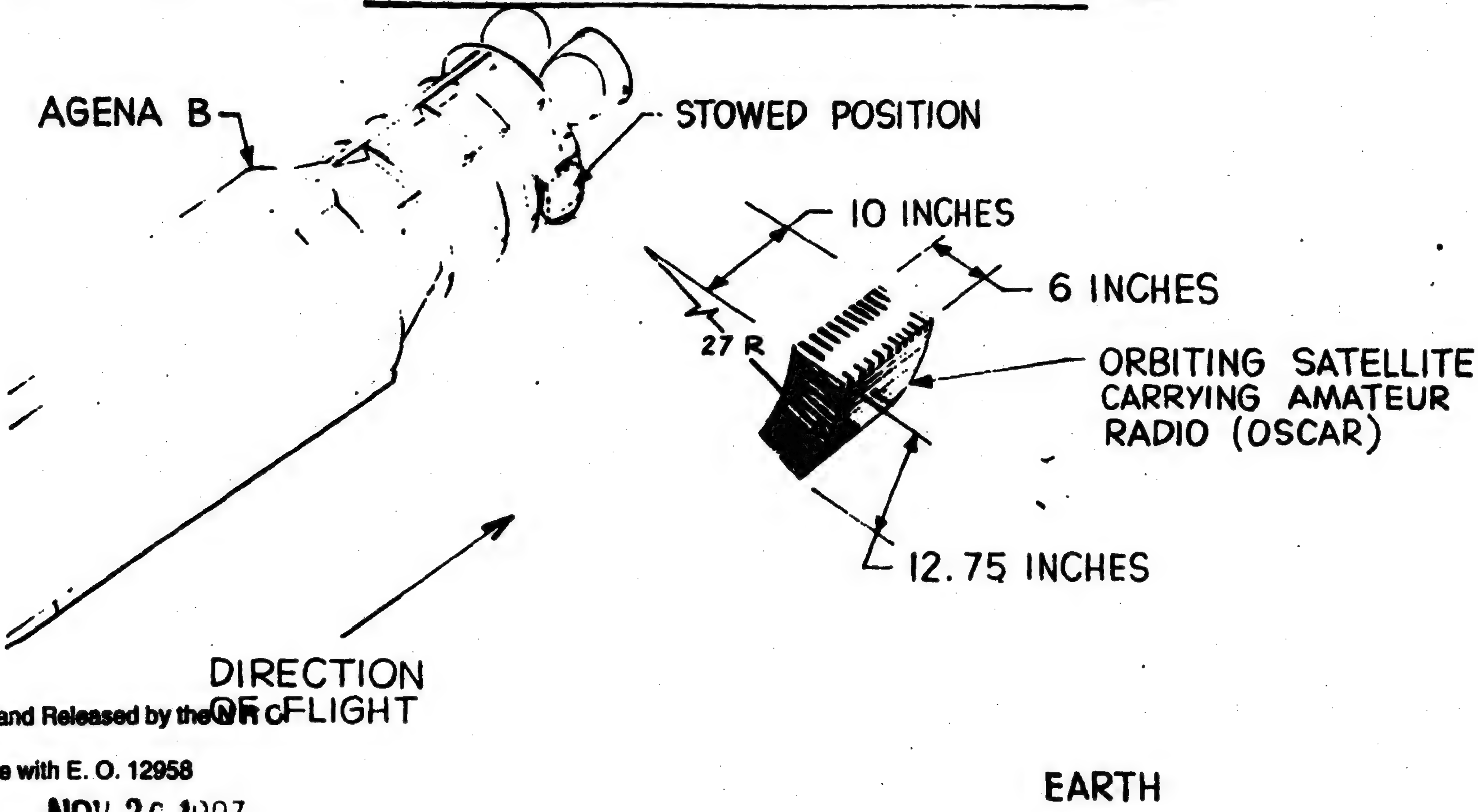
DISCOVERER RESEARCH PROGRAM

EJECTION OF COMMUNICATION PACKAGE



Declassified and Released by the NRO

In Accordance with E. O. 12958

on NOV 26 1997

P-6459 [illegible]

UNCLASSIFIED

DISCOVERER RESEARCH PROGRAM

PROPOSED GEOPHYSICAL EXPERIMENTS

FTV NUMBER	1124	1125	1126	1132	1127	1128	1134	1129	1130	1131	1133	1135	1136
DOOR NUMBER	112	113	114	115	116	117	118	119	120	121	122	123	124
[1] EROISON DETECTOR	•	•											
[2] IMPEDANCE PROBE 1A	•	•							•	•			
TEMP. COMMUTATOR	•	•	•	•			•	•	•	•	•	VELA HOTEL	
[2] COSMIC RAY MON. 7B	•	•											
[1] DENSITY GAGE MOD 3A	•	•											
[3] RADIOMETER, MODEL 4	•	•											
[3] RADIOMETER, MODEL 5	•	•											
[1] CHARGED PARTICLE ENERGY	•	•											
[4] COSMIC RAY MONITOR 8B									•	•	•		
[2] GALACTIC RF MON, 3													
[1] ELECTRON DENSITY GAGE 2C													
[3] ULTRA VIOLET RADIOMETER													
[2] GALACTIC RF MON 2													
RETARD POTENT. ANALYZER													
[1] ION TRAP													
BETA-GAMMA DETECTOR													
TISSUE EQUIVALENT CHAMBER													
[2] IMPEDANCE PROBE 2													
[1] MAGNETOMETER													
[2] 20/40 TRANSMITTER													
NEUTRON DETECTOR 3													
MASS SPECTROMETER													
RADIOMETER, MODEL 6													
MICROMETEORITE DETECTOR, SKIN-ACOUSTIC													

[1] EXPERIMENT MOUNTED ON ERECTABLE BOOM TWO TAPE ANTENNAE REQUIRED SENSORS FACING EARTH SENSOR FACING ZENITH

P 6462 DISC 2/10/62

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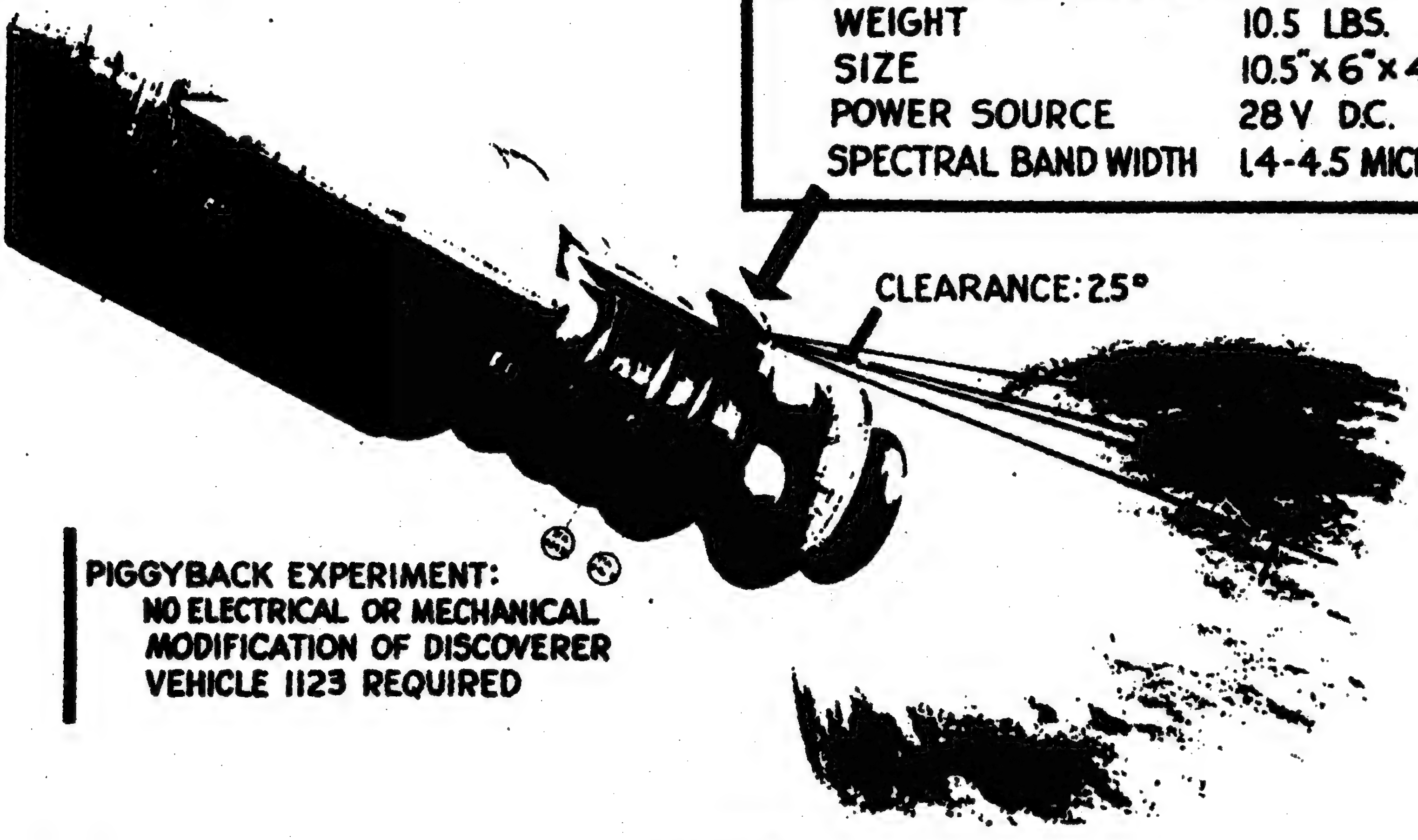
DISCOVERER RESEARCH PROGRAM



MIDAS PLUME

SPECTROMETER CHARACTERISTICS:

WEIGHT	10.5 LBS.
SIZE	10.5" x 6" x 4.6"
POWER SOURCE	28 V D.C.
SPECTRAL BAND WIDTH	1.4-4.5 MICRONS

PIGGYBACK EXPERIMENT:

NO ELECTRICAL OR MECHANICAL
MODIFICATION OF DISCOVERER
VEHICLE 1123 REQUIRED

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DISCOVERER RESEARCH PROGRAM

THERMOELECTRIC BOOM

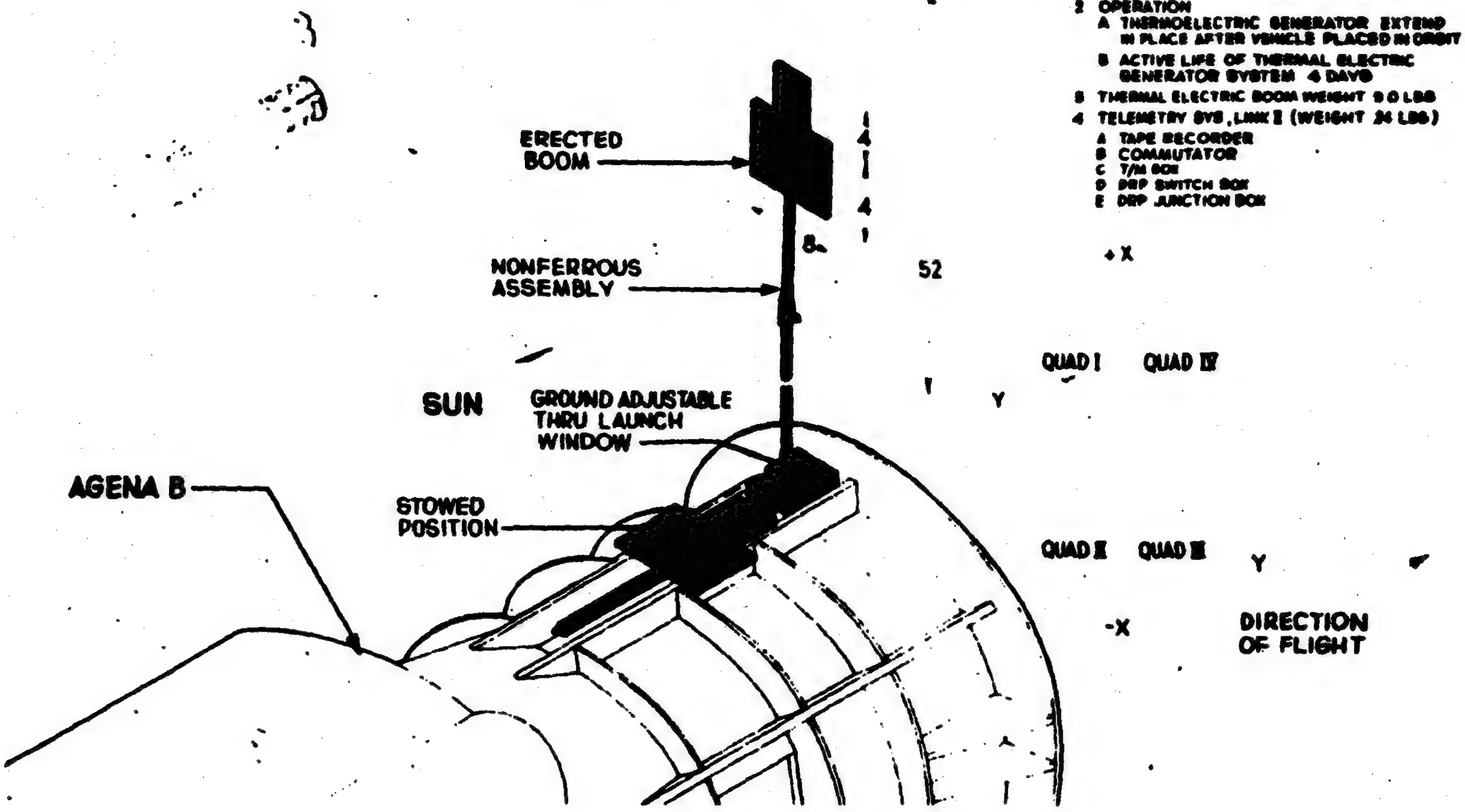
NOTES

1 TEST OBJECTIVE DETERMINE THE OPERATING CHARACTERISTICS OF A THERMOELECTRIC GENERATOR IN SPACE ENVIRONMENT

2 OPERATION
  - A THERMOELECTRIC GENERATOR EXTEND IN PLACE AFTER VEHICLE PLACED IN ORBIT
  - B ACTIVE LIFE OF THERMAL ELECTRIC GENERATOR SYSTEM 4 DAYS

3 THERMAL ELECTRIC BOOM WEIGHT 9.0 LBS

4 TELEMETRY SYS, LINK II (WEIGHT 24 LBS)
  - A TAPE RECORDER
  - B COMMUTATOR
  - C T/M BOX
  - D DRP SWITCH BOX
  - E DRP JUNCTION BOX



UNCLASSIFIED

DISCOVERER RESEARCH PROGRAM

HORIZON SENSOR EXPERIMENT

OBJECTIVES:

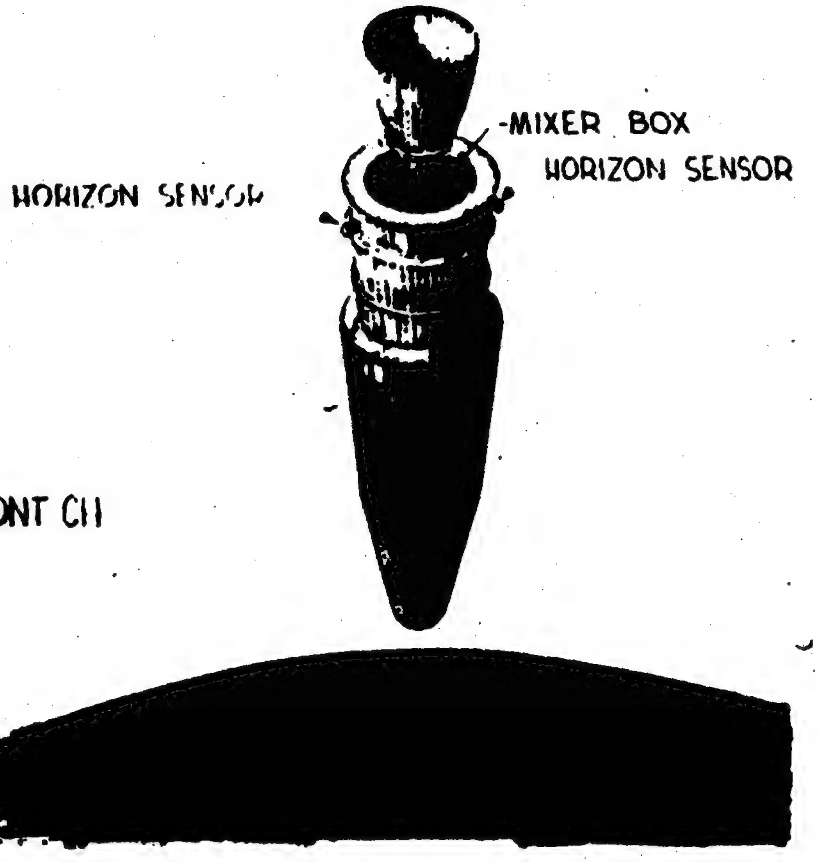
TO EVALUATE THE PERFORMANCE
OF A HORIZON SENSOR FOR
CONTROL OF VEHICLE ORIENTATION

EQUIPMENT:

2 HORIZON SCANNERS
1 MIXER BOX
1 PRE-AMP. BOX
TOTAL EQUIP. WT. 13.5 LBS.

TELEMETRY:

7 INSTRUMENTATION POINTS WITH 2 ON CONT CH
REAL TIME DATA VIA LINK II T/M
POWER REQUIREMENTS, 12 WATTS



1-6460 DISC 2-10-62
CY-S-1

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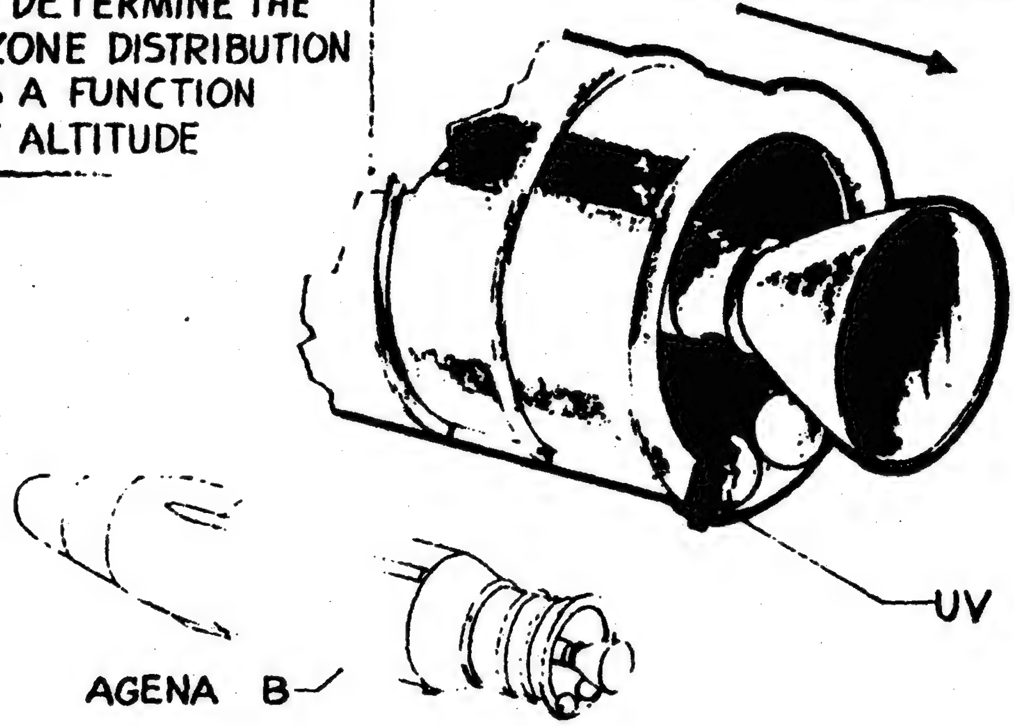
DISCOVERER RESEARCH PROGRAM

ULTRA VIOLET RADIOMETER EXPERIMENT

OBJECTIVE:
TO DETERMINE THE OZONE DISTRIBUTION AS A FUNCTION OF ALTITUDE

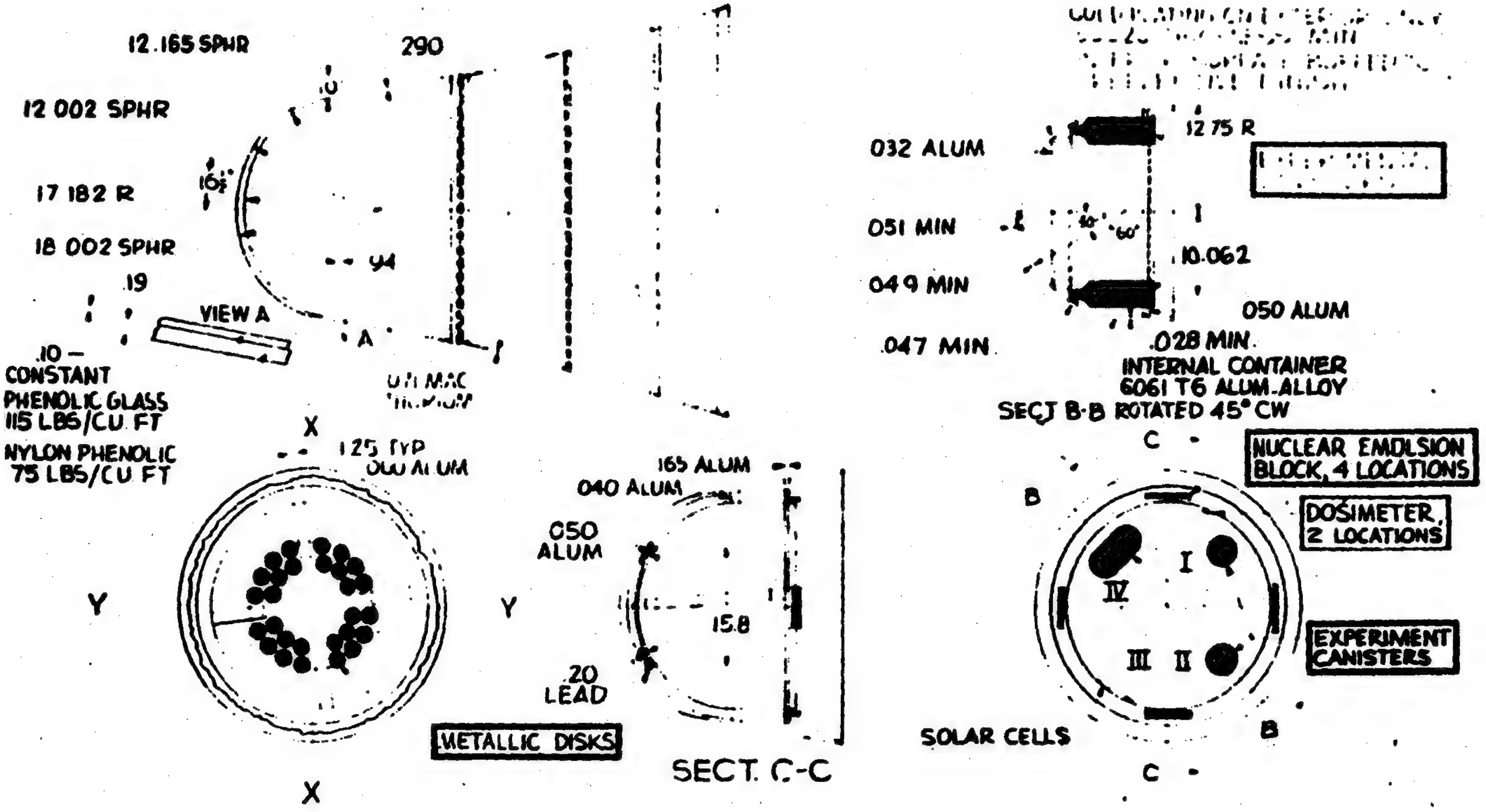


COMMUNICATIONS:

- 4 INSTRUMENTATION POINTS
- REAL TIME DATA VIA LINK II T/M
- RECORDED DATA ON DUAL TRACK 180 MIN. TAPE RECORDER (27:1 RATIO).

UNCLASSIFIED

DISCOVERER RECOVERY CAPSULE



P-6033 "DISC" 12/6/61
CY-5-1

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DISCOVERER RESEARCH PROGRAM

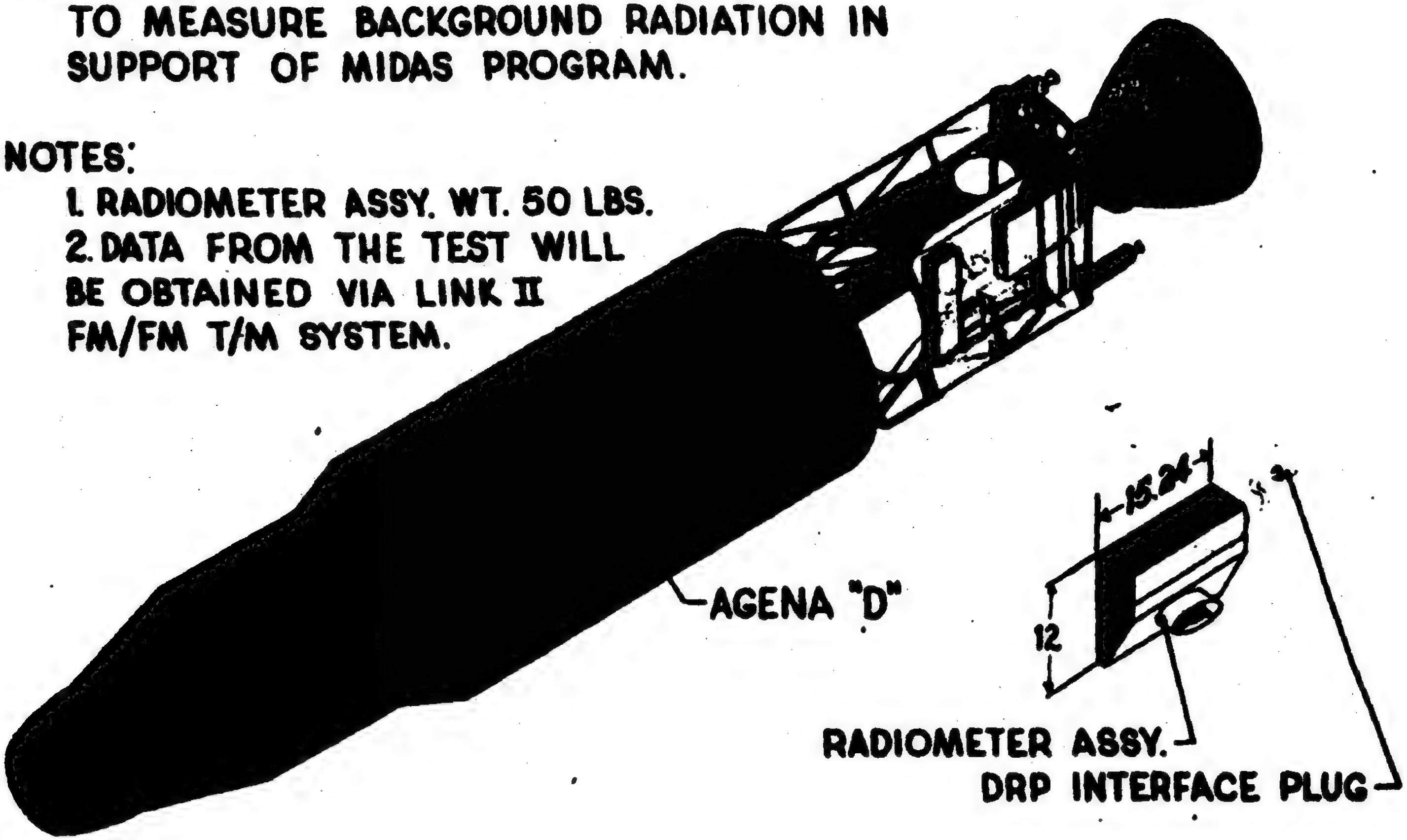
RADIOMETER TEST

OBJECTIVE:

TO MEASURE BACKGROUND RADIATION IN SUPPORT OF MIDAS PROGRAM.

NOTES:

1. RADIOMETER ASSY. WT. 50 LBS.
2. DATA FROM THE TEST WILL BE OBTAINED VIA LINK II FM/FM T/M SYSTEM.



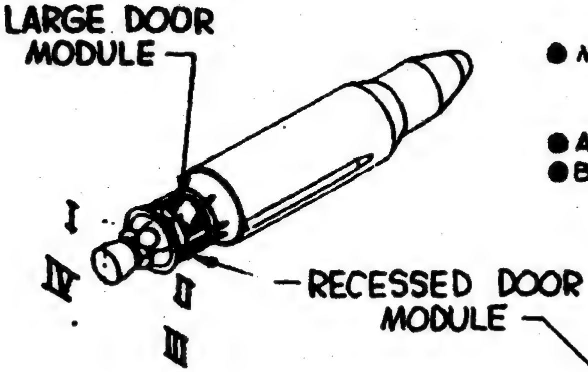
UNCLASSIFIED

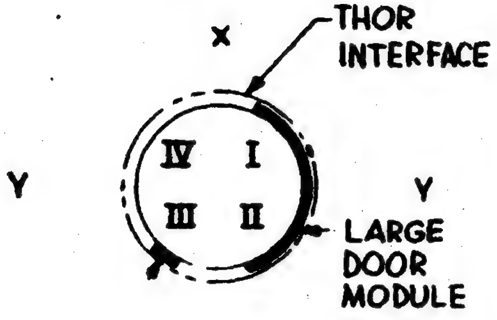
DISCOVERER RESEARCH PROGRAM

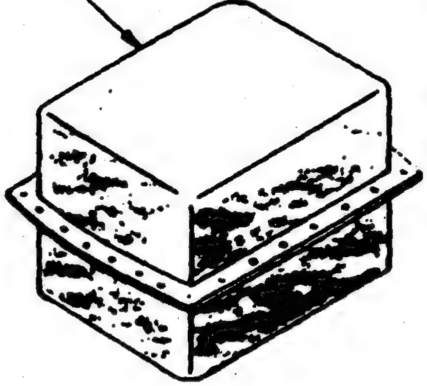
RECESSED & LARGE DOOR MODULES

NOTES:

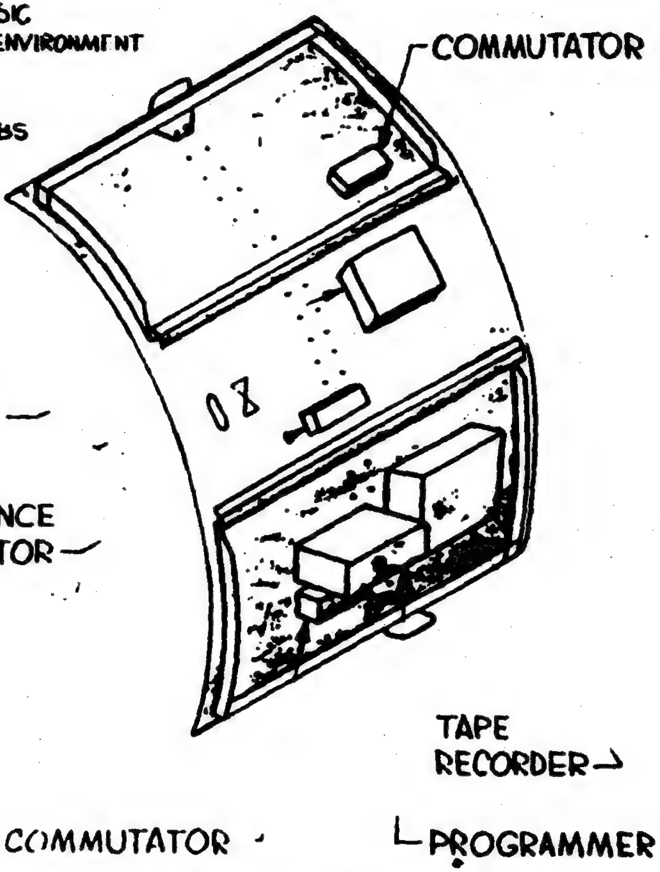
- TEST OBJECTIVES: TO PROVIDE A BASIC CAPABILITY FOR CONDUCTING SPACE ENVIRONMENT AND MATERIAL EXPERIMENTS
- MODULE WEIGHT
  - LARGE DOOR WITH BASIC EQUIP. - 35 LBS
  - RECESSED DOOR, VARIABLE
- ACTIVE LIFE OF MODULES - 4 DAYS
- BASIC EQUIP. ON LARGE DOOR MODULE
  - TAPE RECORDER
  - PROGRAMMER
  - TWO COMMUTATORS
  - TIME REFERENCE GENERATOR
  - DC/DC POWER SUPPLY







RECESSED DOOR MODULE



LARGE DOOR MODULE

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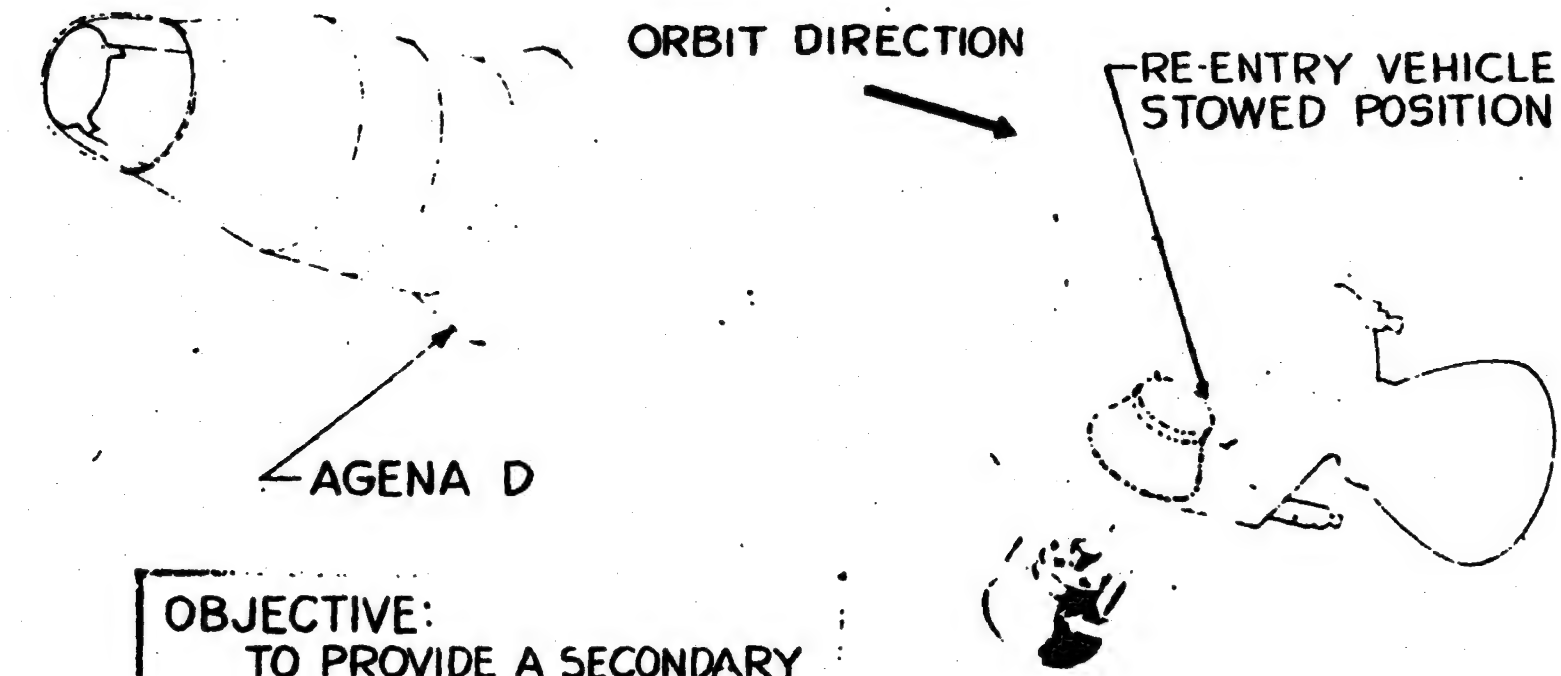
DISCOVERER RESEARCH PROGRAM

RE-ENTRY RESEARCH VEHICLE

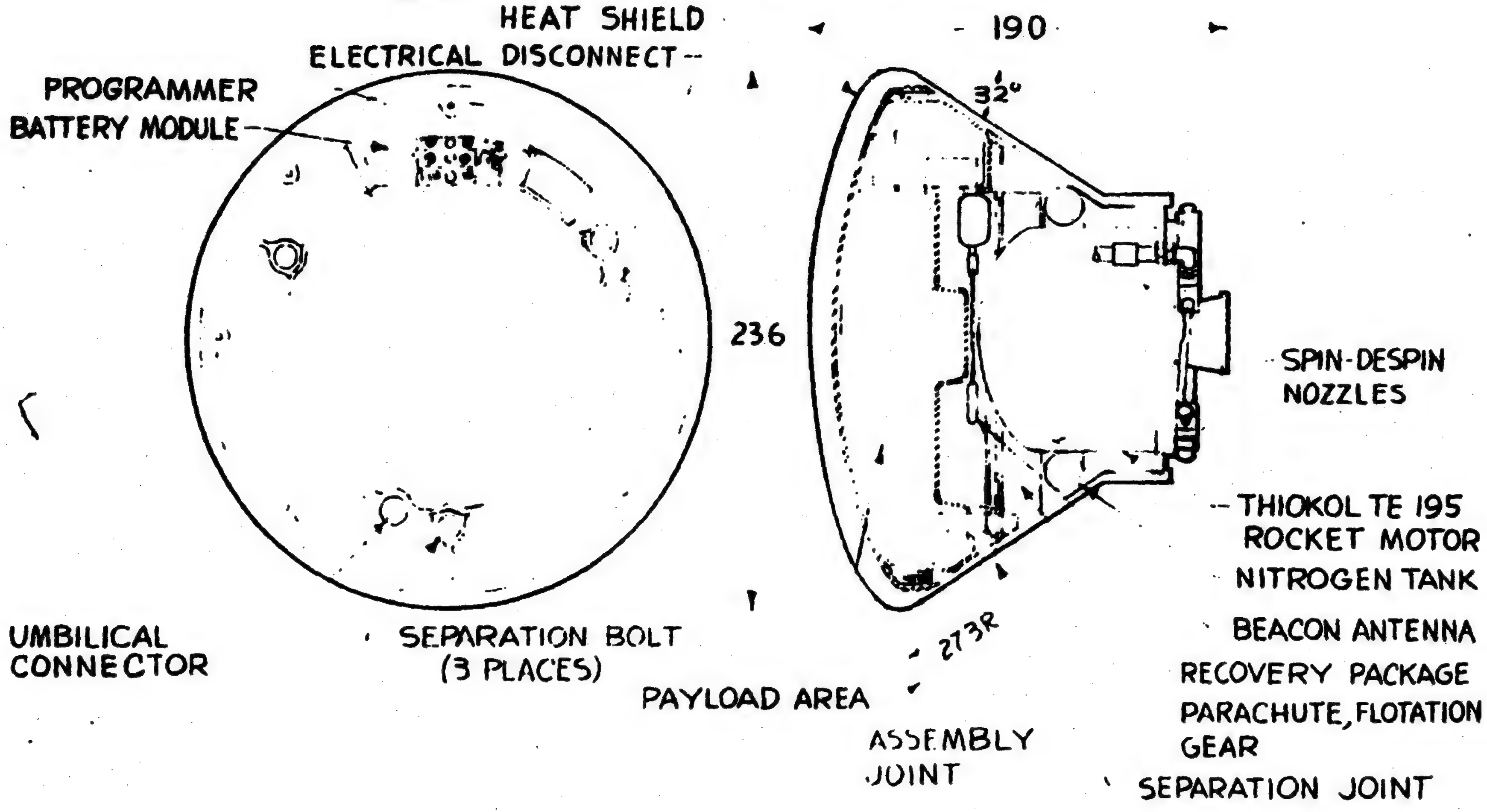


OBJECTIVE:

TO PROVIDE A SECONDARY RE-ENTRY VEHICLE FOR RESEARCH EXPERIMENTS

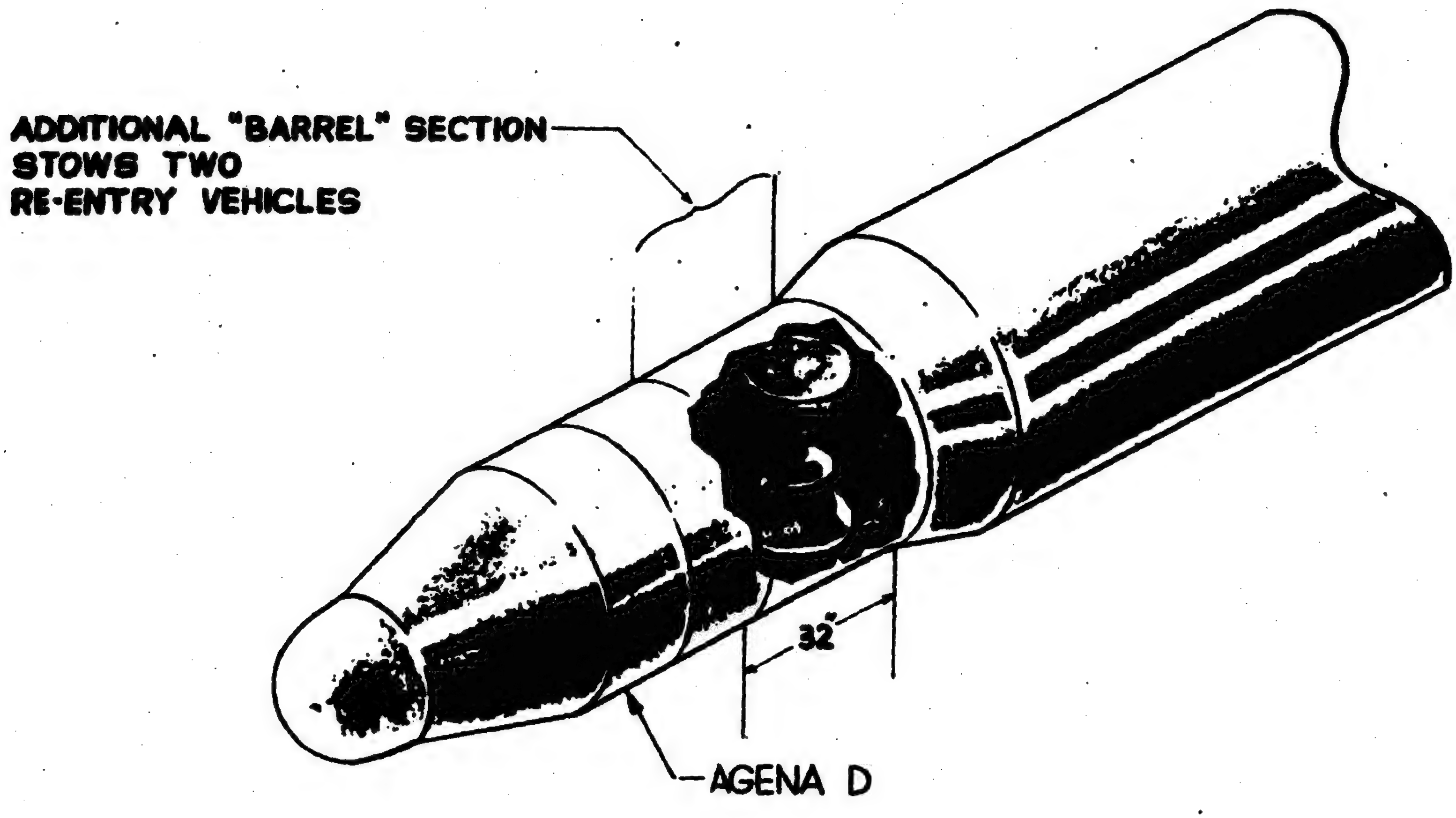
DISCOVERER RESEARCH PROGRAM

RE-SEARCH RE-ENTRY VEHICLE



DISCOVERER RESEARCH PROGRAM

ALTERNATE STOWAGE CONCEPT OF RE-ENTRY RESEARCH VEHICLES



P-0467 LSC 2-11-62
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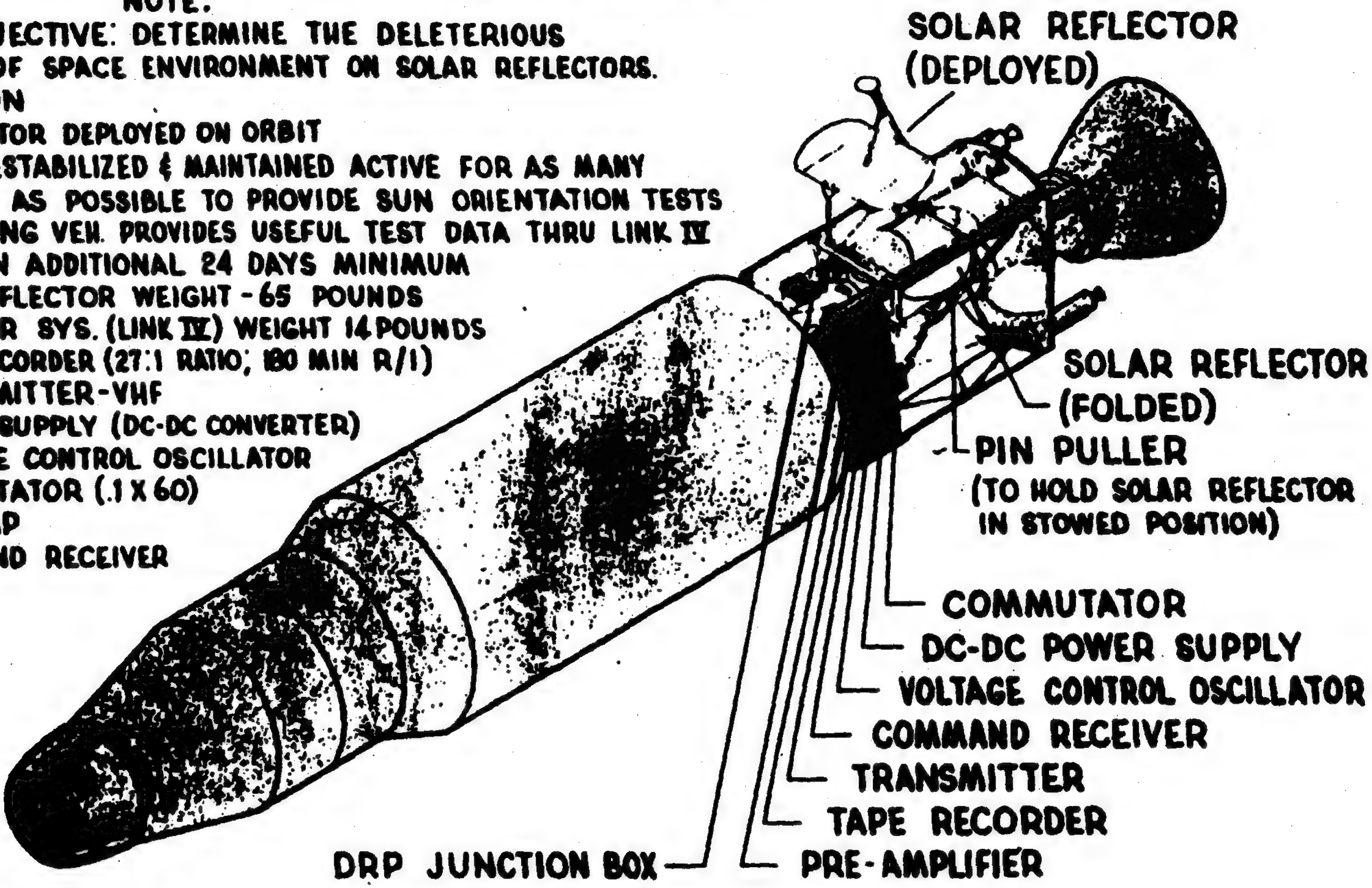
SOLAR REFLECTOR SYSTEM INSTALLATION

DISCOVERER

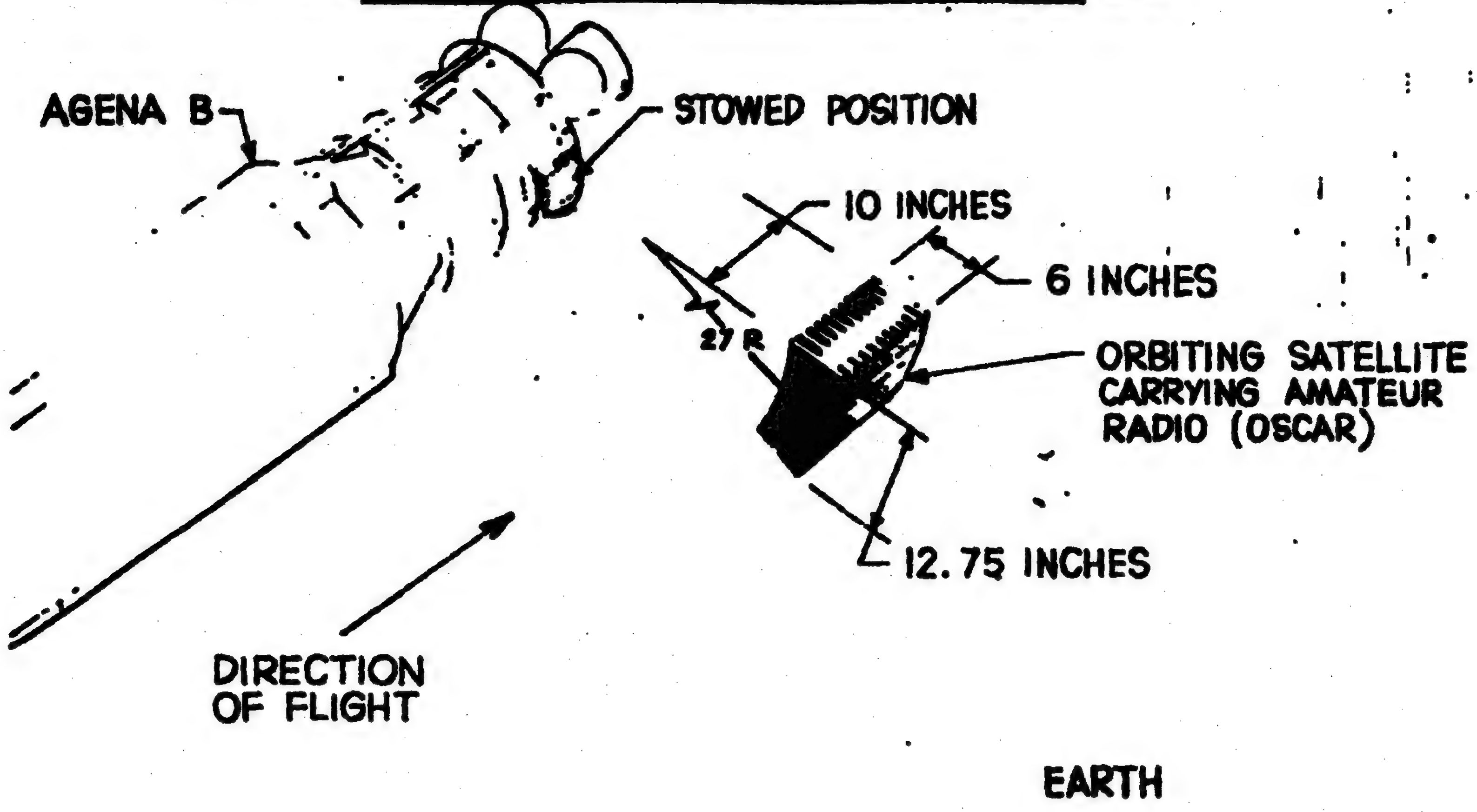
NOTE:

1. TEST OBJECTIVE: DETERMINE THE DELETERIOUS EFFECTS OF SPACE ENVIRONMENT ON SOLAR REFLECTORS.
2. OPERATION
   - A. REFLECTOR DEPLOYED ON ORBIT
   - B. VEH. RESTABILIZED & MAINTAINED ACTIVE FOR AS MANY ORBITS AS POSSIBLE TO PROVIDE SUN ORIENTATION TESTS
   - C. TUMBLING VEH. PROVIDES USEFUL TEST DATA THRU LINK IV FOR AN ADDITIONAL 24 DAYS MINIMUM
3. SOLAR REFLECTOR WEIGHT - 65 POUNDS
4. TELEMETER SYS. (LINK IV) WEIGHT 14 POUNDS
   - A. TAPE RECORDER (27:1 RATIO; 180 MIN R/I)
   - B. TRANSMITTER-VHF
   - C. POWER SUPPLY (DC-DC CONVERTER)
   - D. VOLTAGE CONTROL OSCILLATOR
   - E. COMMUTATOR (.1 X 60)
   - F. PRE-AMP
   - G. COMMAND RECEIVER



DISCOVERER RESEARCH PROGRAM

EJECTION OF COMMUNICATION PACKAGE



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UNCLASSIFIED

DISCOVERER RESEARCH PROGRAM

PROPOSED GEOPHYSICAL EXPERIMENTS

	FTV NUMBER	1124	1125	1126	1132	1127	1128	1134	1129	1130	1131	1133	1135	1136
	POOR NUMBER	112	113	114	115	116	117	118	119	120	121	122	123	124
1	EROISON DETECTOR	•	•											
2	IMPEDANCE PROBE 1A	•	•							•	•			
	TEMP. COMMUTATOR	•	•					•	•	•	•		VELA HOTEL	
3	COSMIC RAY MON. 7B	•	•											
1	DENSITY GAGE MOD 3A	•	•											
3	RADIOMETER, MODEL 4	•	•											
3	RADIOMETER, MODEL 5	•	•											
1	CHARGED PARTICLE ENERGY	•	•											
4	COSMIC RAY MONITOR 8B									•	•	•		
2	GALACTIC RF MON, 3													
1	ELECTRON DENSITY GAGE 2C													
3	ULTRA VIOLET RADIOMETER													
2	GALACTIC RF MON 2											•		
	RETARD POTENT. ANALYZER													
1	ION TRAP													
	BETA-GAMMA DETECTOR													
	TISSUE EQUIVALENT CHAMBER													
2	IMPEDANCE PROBE 2													
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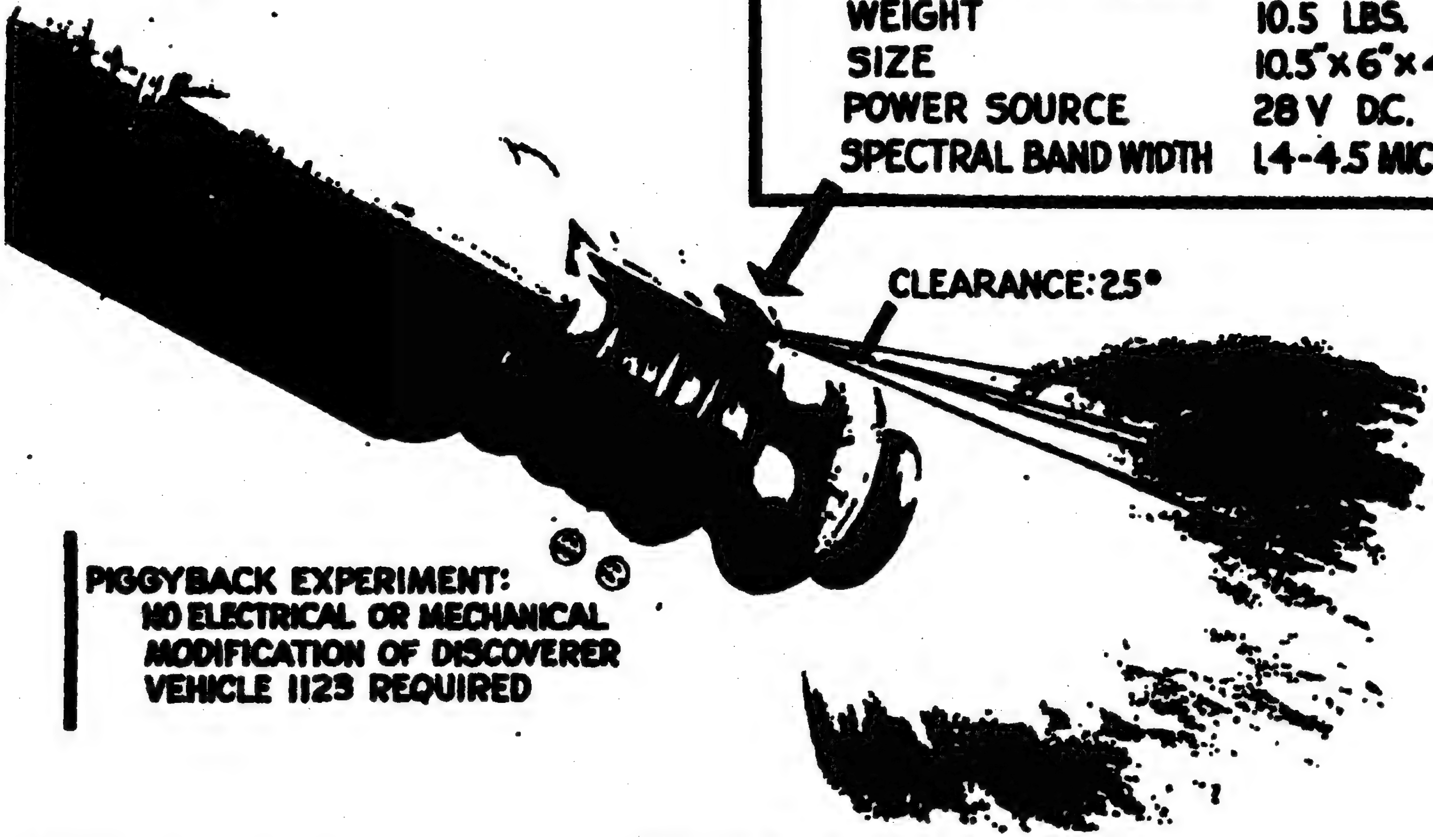
	NEUTRON DETECTOR 3													
	MASS SPECTROMETER													
	RADIOMETER, MODEL 6													
	MICROMETEORITE DETECTOR, GRID-ACOUSTIC													

1 EXPERIMENT MOUNTED ON ERECTABLE BOOM . TWO TAPE ANTENNAE REQUIRED . SENSORS FACING EARTH
. SENSOR FACING ZENITH

P 6462 DISC 2/10/62

UNCLASSIFIED

DISCOVERER RESEARCH PROGRAM



MIDAS PLUME

SPECTROMETER CHARACTERISTICS:

WEIGHT	10.5 LBS.
SIZE	10.5" x 6" x 4.6"
POWER SOURCE	28 V D.C.
SPECTRAL BAND WIDTH	1.4-4.5 MICRONS

CLEARANCE: 25°

PIGGYBACK EXPERIMENT:
NO ELECTRICAL OR MECHANICAL MODIFICATION OF DISCOVERER VEHICLE 1123 REQUIRED

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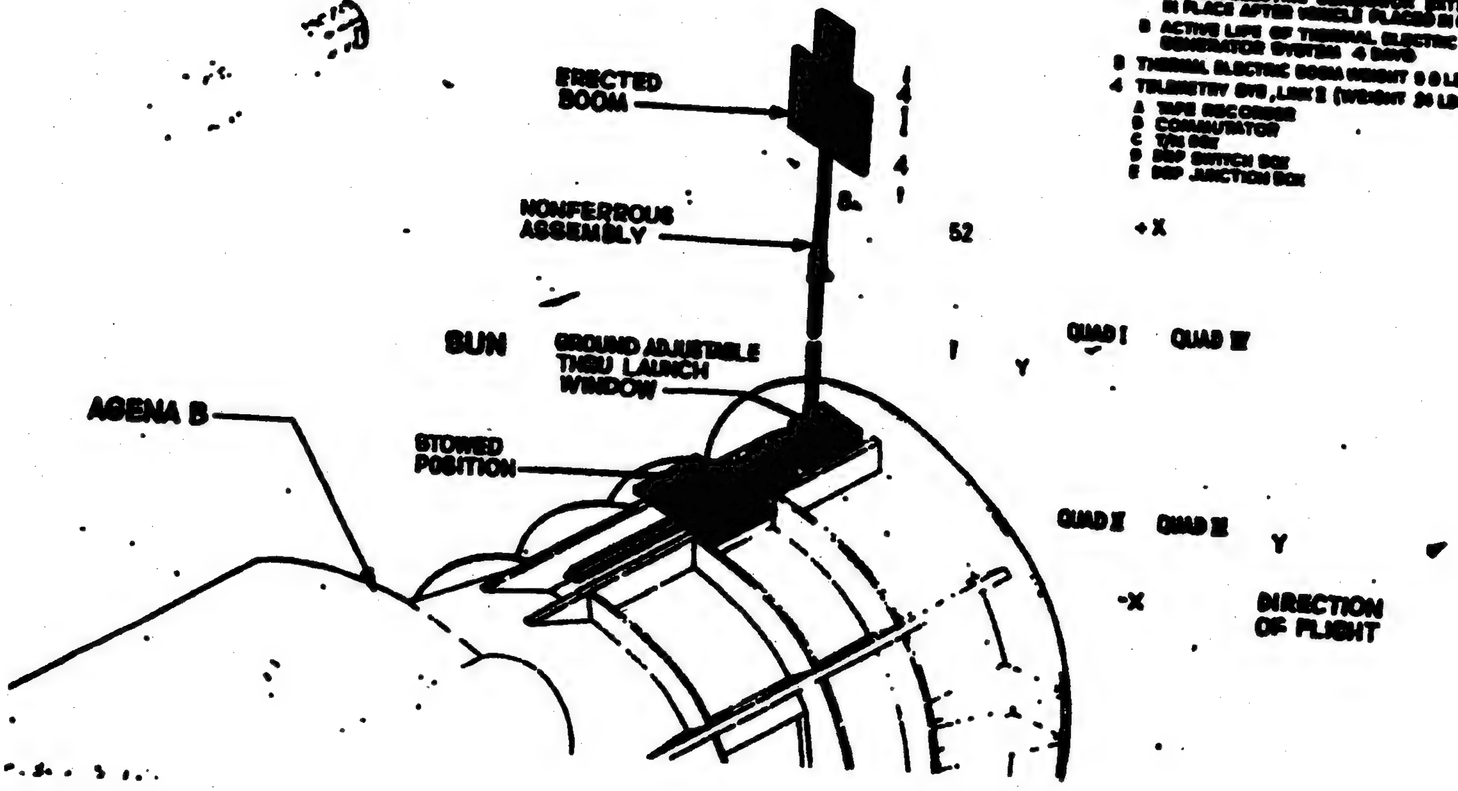
DISCOVERER RESEARCH PROGRAM

THERMOELECTRIC BOOM



NOTES

1 TEST OBJECTIVE DETERMINE THE OPERATING CHARACTERISTICS OF A THERMOELECTRIC GENERATOR IN SPACE ENVIRONMENT
2 OPERATION
  A THERMOELECTRIC GENERATOR EXTEND IN PLACE AFTER VEHICLE PLACED IN ORBIT
  B ACTIVE LIFE OF THERMAL ELECTRIC GENERATOR SYSTEM 4 DAYS
3 THERMAL ELECTRIC BOOM WEIGHT 9.0 LBS
4 TELEMETRY SYS, LINK I (WEIGHT 24 LBS)
  A TAPE RECORDER
  B COMMUTATOR
  C T/M BOX
  D DSP SWITCH BOX
  E DSP JUNCTION BOX

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DISCOVERER RESEARCH PROGRAM

HORIZON SENSOR EXPERIMENT

OBJECTIVES:

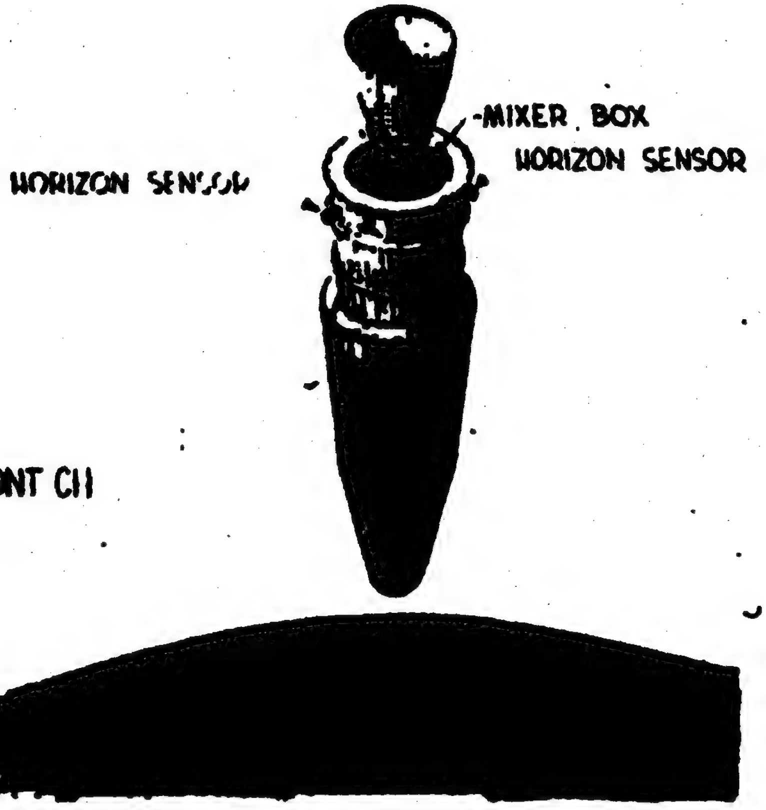
TO EVALUATE THE PERFORMANCE
OF A HORIZON SENSOR FOR
CONTROL OF VEHICLE ORIENTATION

EQUIPMENT:

2 HORIZON SCANNERS
1 MIXER BOX
1 PRE-AMP BOX
TOTAL EQUIP. WT. 13.5 LBS.

TELEMETRY:

7 INSTRUMENTATION POINTS WITH 2 ON CONT CH
REAL TIME DATA VIA LINK II T/M
POWER REQUIREMENTS, 12 WATTS



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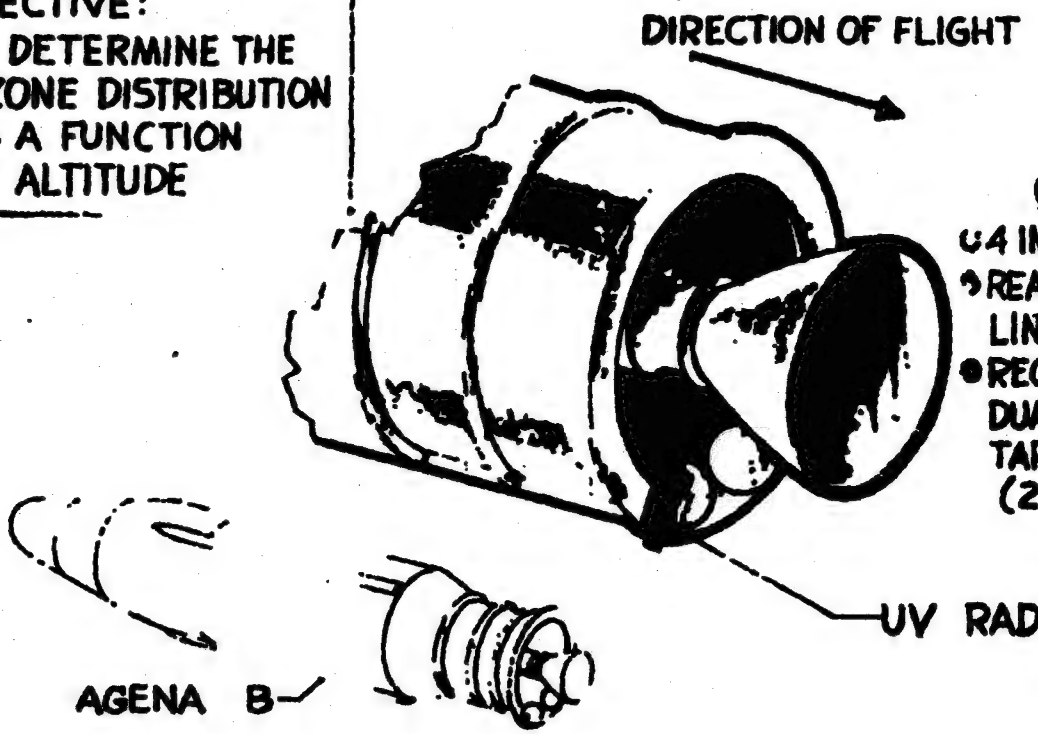
DISCOVERER RESEARCH PROGRAM

ULTRA VIOLET RADIOMETER EXPERIMENT

OBJECTIVE:
TO DETERMINE THE OZONE DISTRIBUTION AS A FUNCTION OF ALTITUDE



COMMUNICATIONS:

- 4 INSTRUMENTATION POINTS
- REAL TIME DATA VIA LINK II T/M
- RECORDED DATA ON DUAL TRACK 180 MIN. TAPE RECORDER (27:1 RATIO).

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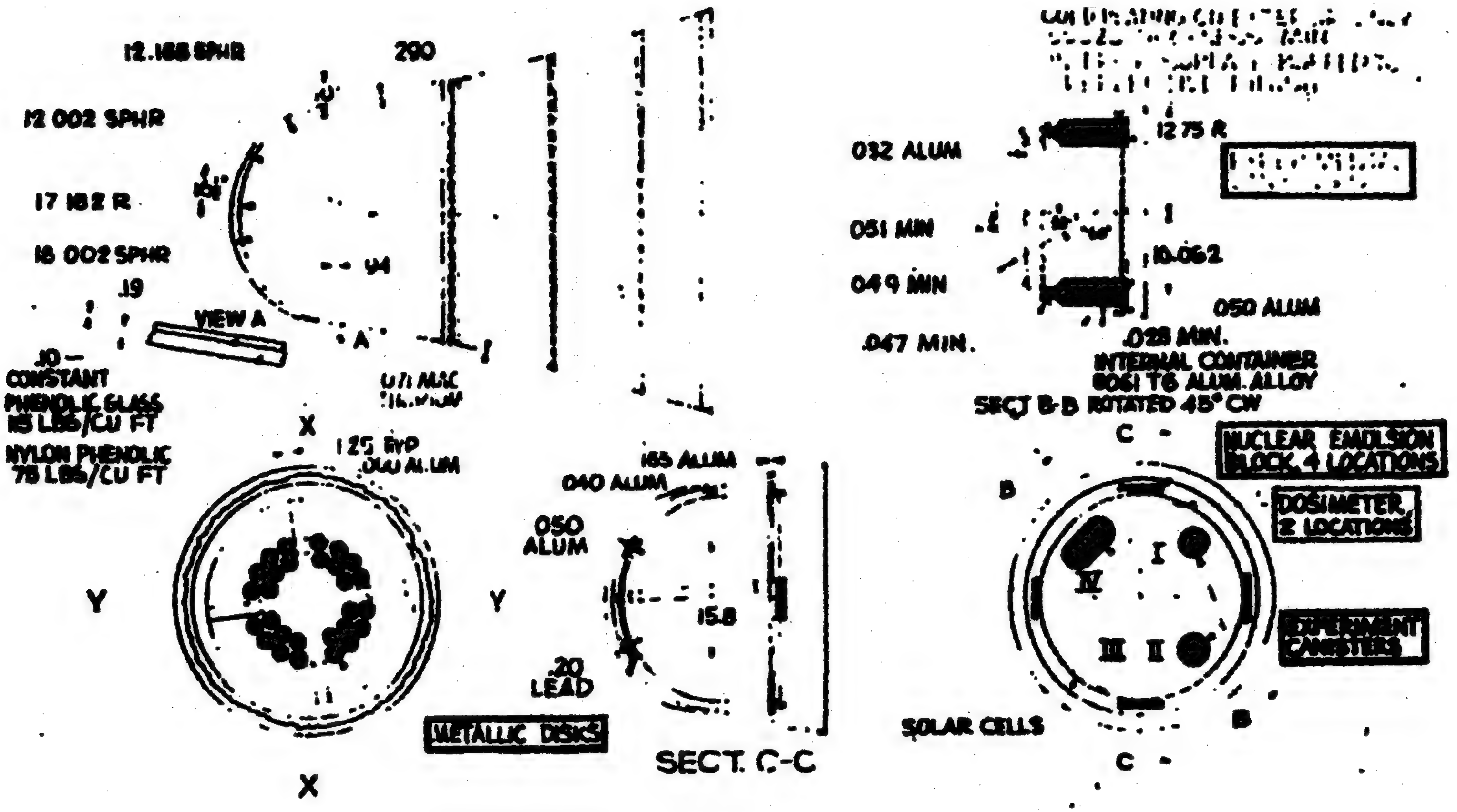
DISCOVERER RECOVERY CAPSULE



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DISCOVERER RESEARCH PROGRAM

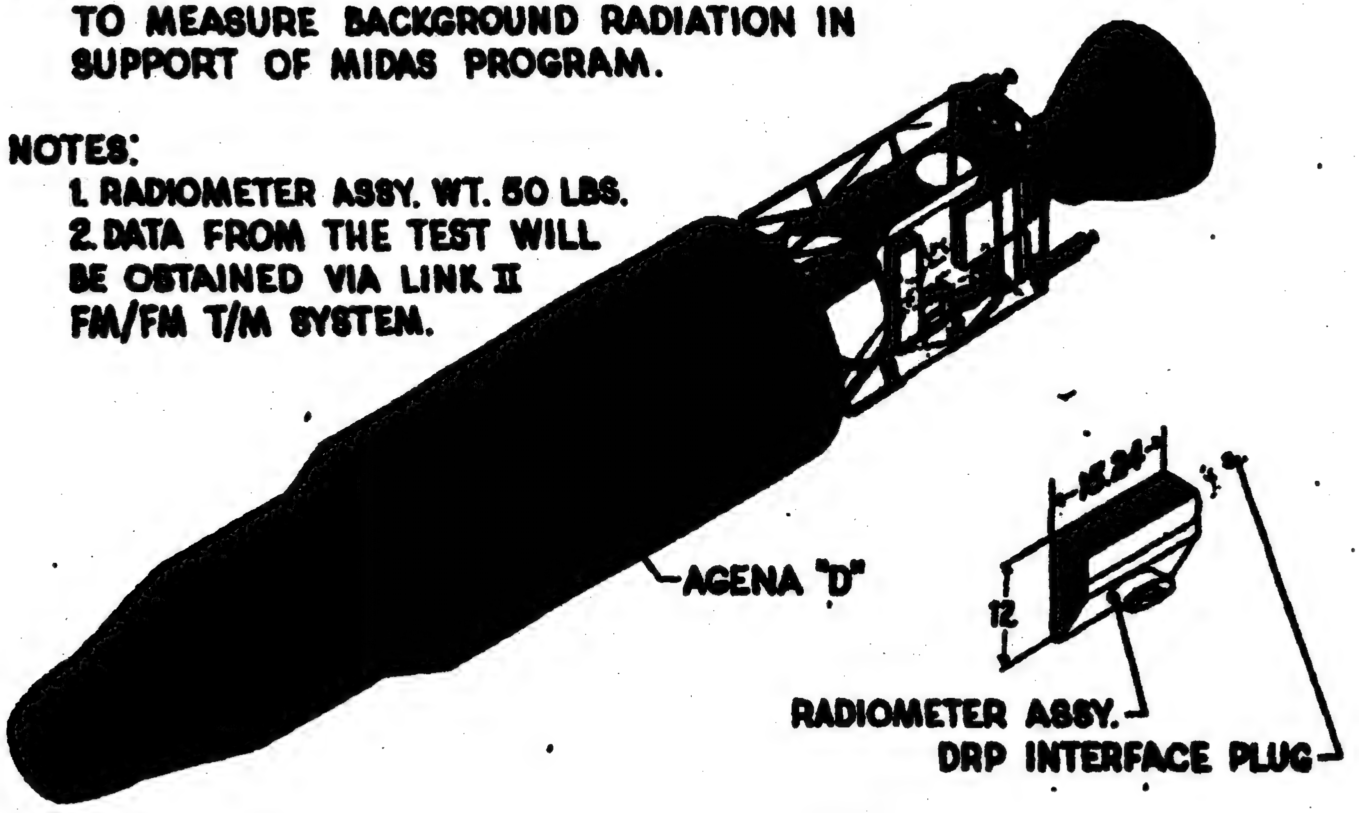
RADIOMETER TEST

OBJECTIVE:

TO MEASURE BACKGROUND RADIATION IN SUPPORT OF MIDAS PROGRAM.

NOTES:

1. RADIOMETER ASSY. WT. 50 LBS.
2. DATA FROM THE TEST WILL BE OBTAINED VIA LINK II FM/FM T/M SYSTEM.



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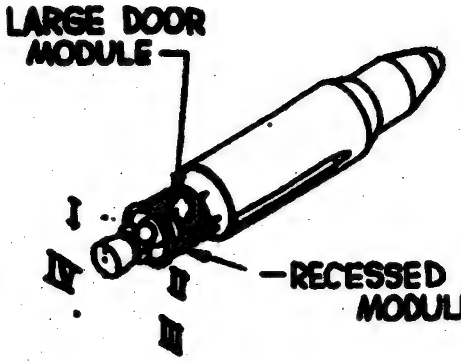
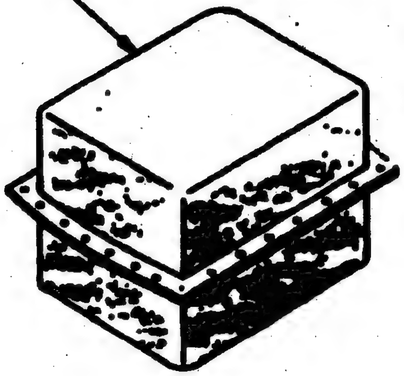
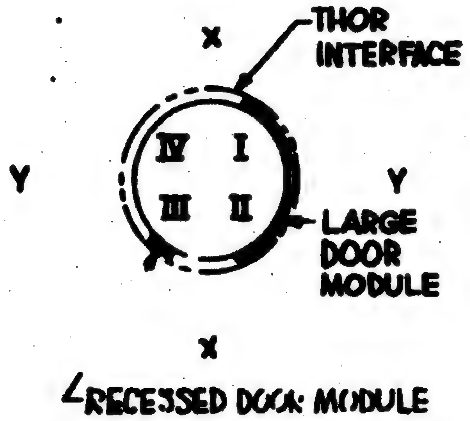
RECESSED & LARGE DOOR MODULES

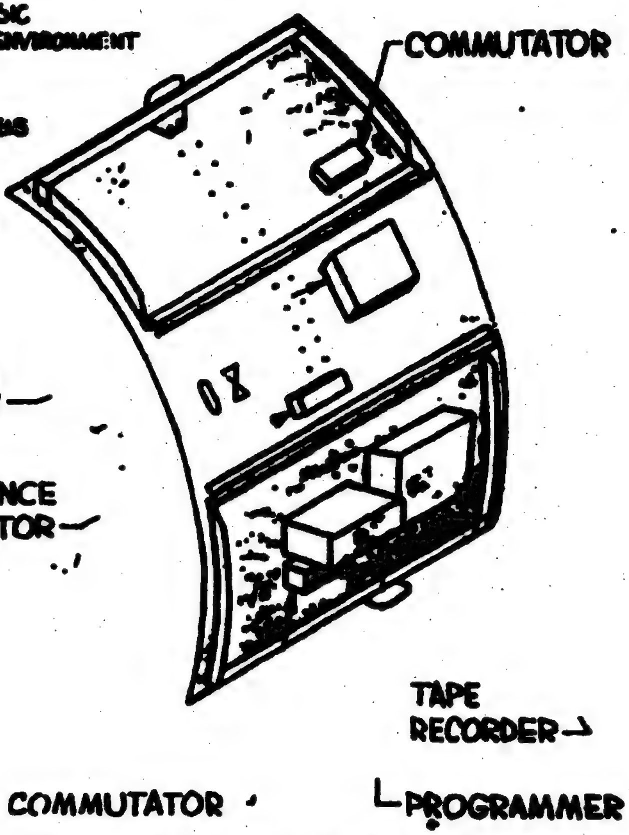
NOTES:

- TEST OBJECTIVES: TO PROVIDE A BASIC CAPABILITY FOR CONDUCTING SPACE ENVIRONMENT AND MATERIAL EXPERIMENTS
- MODULE WEIGHT
  - LARGE DOOR WITH BASIC EQUIP. - 35 LBS
  - RECESSED DOOR, VARIABLE
- ACTIVE LIFE OF MODULES - 4 DAYS
- BASIC EQUIP. ON LARGE DOOR MODULE
  - TAPE RECORDER
  - PROGRAMMER
  - TWO COMMUTATORS
  - TIME REFERENCE GENERATOR
  - DC/DC POWER SUPPLY









LARGE DOOR MODULE

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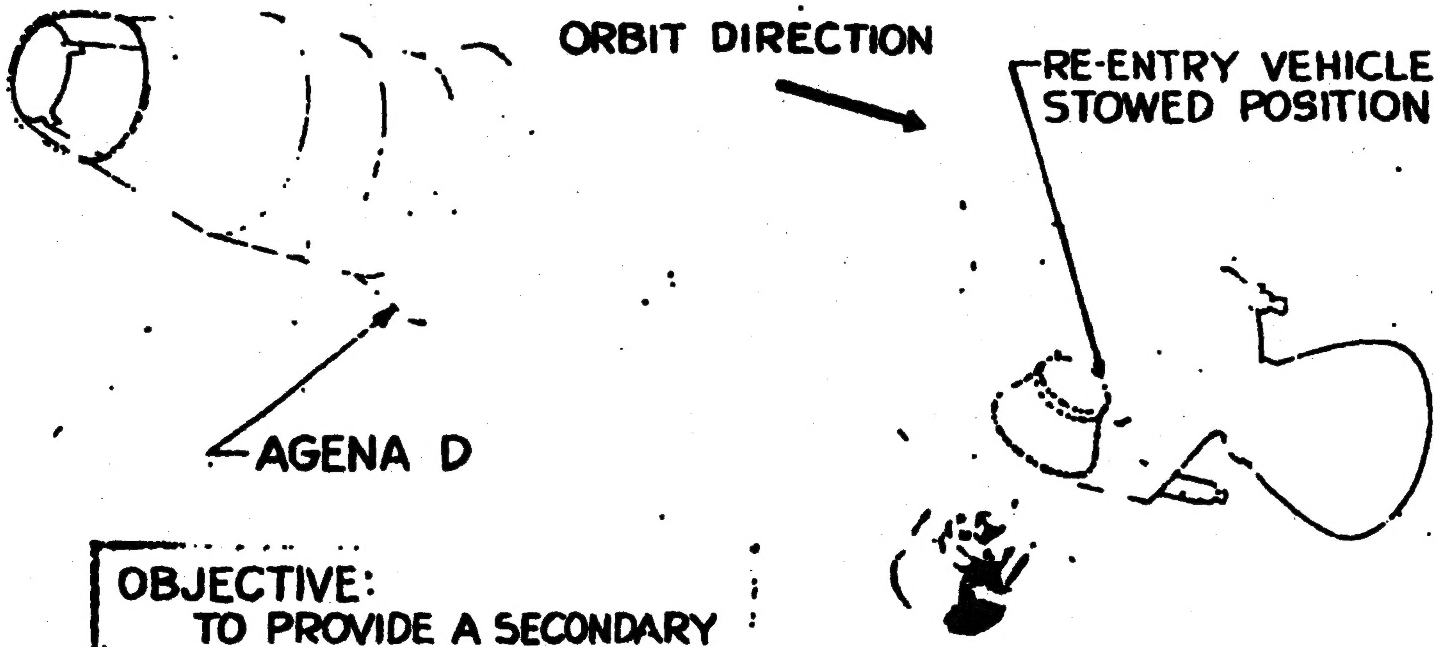
RE-ENTRY RESEARCH VEHICLE



OBJECTIVE:
TO PROVIDE A SECONDARY
RE-ENTRY VEHICLE FOR
RESEARCH EXPERIMENTS

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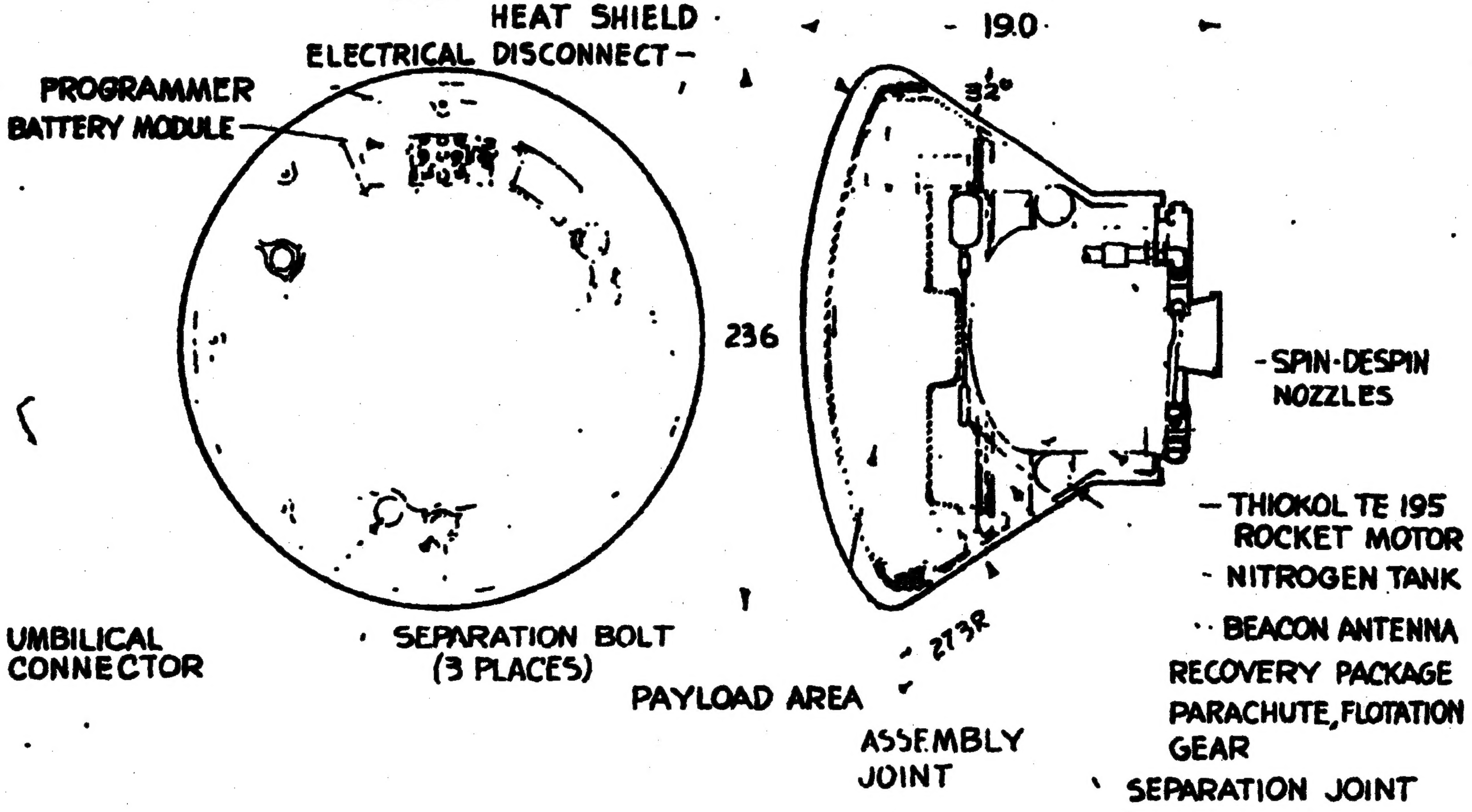
RE-SEARCH RE-ENTRY VEHICLE



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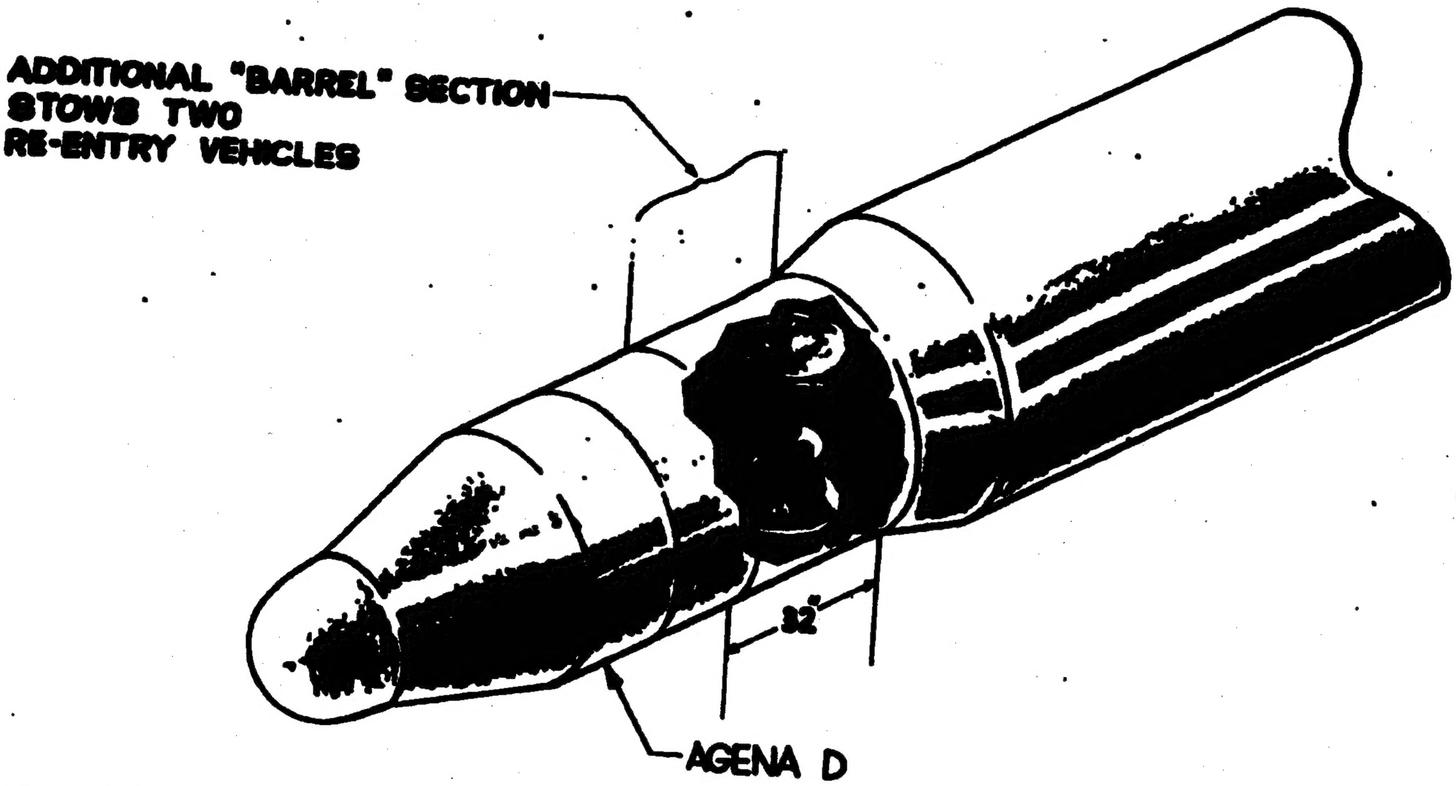
ALTERNATE STOWAGE CONCEPT OF RE-ENTRY RESEARCH VEHICLES



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SOLAR REFLECTOR SYSTEM INSTALLATION

DISCOVERER

NOTE:

1. TEST OBJECTIVE: DETERMINE THE DELETERIOUS EFFECTS OF SPACE ENVIRONMENT ON SOLAR REFLECTORS.
2. OPERATION
   - A. REFLECTOR DEPLOYED ON ORBIT
   - B. VEH. RESTABILIZED & MAINTAINED ACTIVE FOR AS MANY ORBITS AS POSSIBLE TO PROVIDE SUN ORIENTATION TESTS
   - C. TUMBLING VEH. PROVIDES USEFUL TEST DATA THRU LINK IV FOR AN ADDITIONAL 24 DAYS MINIMUM
3. SOLAR REFLECTOR WEIGHT - 65 POUNDS
4. TELEMETER SYS. (LINK IV) WEIGHT 14 POUNDS
   - A. TAPE RECORDER (27:1 RATIO; 180 MIN R/I)
   - B. TRANSMITTER - VHF
   - C. POWER SUPPLY (DC-DC CONVERTER)
   - D. VOLTAGE CONTROL OSCILLATOR
   - E. COMMUTATOR (.1 X 60)
   - F. PRE-AMP
   - G. COMMAND RECEIVER